THE COMMISSION

Grade 6 EQAO practice. You are the junior designer on a real job — a community pavilion, a budget, a survey and a deadline. Everything you calculate, somebody builds.

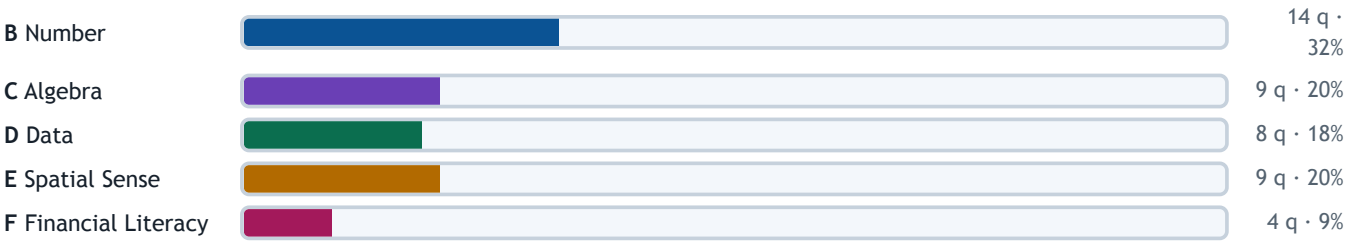
Designer

What is in this book

Part	Sheets	What it covers
1 · Site work	3–36	Thirty-four skill sheets, one per topic, ordered by how much of the assessment each strand carries
2 · The reading room	37–41	Two original texts with the full question set, plus writing conventions and three prompts
3 · Full papers	42–53	**Two complete mathematics papers** built to the real blueprint, and **one complete language paper**
Answers	54+	Every answer, with the reason and the expectation code

The blueprint this book follows

Straight from EQAO's *Junior Division Framework*. Mathematics is **44 operational questions across 4 adaptive stages**; language is **29 questions across 4 sessions**.



Read this before you use the mock papers. Grade 6 mathematics is where Ontario actually struggles: **51%** of students met the standard in 2024–25, against **86%** in reading and **85%** in writing. That is why this book is weighted towards mathematics — not because the assessment is unfair, but because that is where the gap is.

Original questions throughout. Nothing in this book is reproduced from EQAO. The blueprint proportions, question counts, text lengths and rubrics are matched to the published Framework; every question, passage and answer was written for this book.

FOR THE TEACHER · READ THIS ONCE

How to run this book

Skill sheets on any day. Mock papers only after the skills are in — a mock paper taken too early measures the same gap twice and teaches a child they cannot do it.

The eight places Grade 6 students actually lose marks

From the November 2025 released questions with provincial data. The figure is the percentage of students **who met the provincial standard** and still answered incorrectly.

Miss	What defeated them	Where it is fixed
63%	Choosing the right **graph type** for a data set D1.3	Sheet 25 — and 44% of Level 4 got this wrong too
61%	**Composite area** by decomposing a polygon E2.4	Sheets 33–34
52%	**Lines of symmetry** on quadrilaterals E1.1	Sheet 28
49%	**Range, median and mean** together D1.5	Sheet 26
45%	**Term number** versus **term value** in a growing pattern C1.3	Sheet 19
39%	Which decimal is **not** equal to a given number of tenths B1.6	Sheet 8
39%	Identifying **two** primes in a multi-select B2.6	Sheet 10
36%	Completing **conditional code** C3.1	Sheet 23

Four things worth knowing about the real assessment

1 · Mathematics is adaptive; language is not. Four stages of 12 questions, and the difficulty of Stages 2 and 4 depends on how the student did in the stage before. Coverage does not change — every student answers the same number of questions from each strand.

2 · Every mathematics question is selected-response. There is no open-response mathematics question at Grade 6 and no Communication category. Students never have to write out an explanation.

3 · A calculator is available in the mathematics component, along with text-to-speech, zoom, a highlighter and — unlike Grade 3 — **rough notes on screen** in the language component.

4 · Additional time may be given to all students. It is not an accommodation anyone has to qualify for. Say it out loud.

On mock papers. Two full mathematics papers is deliberately not ten. Repeated mock papers measure the same thing repeatedly and teach very little. Use Paper 1 to find the gaps, teach into them with the skill sheets, then use Paper 2 to check. That is the whole cycle.

Every answer in the key is computed, not typed, and the key is generated from the same data that prints the questions — so it cannot drift out of step with the sheets.

SITE WORK · SHEET 3

Whole numbers to a million

Strand B · Number — 14 of the 44 questions (32%) · expectations B1.1

Place value does not stop at hundreds. Read the number out loud before you answer.

1 The Commission budget is written as **155,693**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 100,000
- **B** 5,000
- **C** 5
- **D** 50,000

2 The Commission budget is written as **960,215**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 6
- **B** 900,000
- **C** 60,000
- **D** 0

3 The Commission budget is written as **604,942**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 0
- **B** 4,000
- **C** 600,000
- **D** 188

4 The Commission budget is written as **282,338**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 200,000
- **B** 80,000
- **C** 2,000
- **D** 8

5 The Commission budget is written as **147,684**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 100,000
- **B** 40,000
- **C** 4
- **D** 7,000

6 The Commission budget is written as **925,037**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 2
- **B** 20,000
- **C** 5,000
- **D** 900,000

7 The Commission budget is written as **588,804**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 8,000
- **B** 500,000
- **C** 8
- **D** 80,000

8 The Commission budget is written as **457,251**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 7,000
- **B** 50,000
- **C** 5
- **D** 400,000

9 The Commission budget is written as **763,707**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 700,000
- **B** 60,000
- **C** 6
- **D** 3,000

10 The Commission budget is written as **396,163**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- **A** 9
- **B** 300,000
- **C** 6,000
- **D** 90,000

11 The Commission budget is written as **865,980**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- ○ **A** 6
- ○ **B** 800,000
- ○ **C** 5,000
- ○ **D** 60,000

12 The Commission budget is written as **485,483**. Which is the value of the digit in the **ten thousands** place?

B1.1 · KU

- ○ **A** 8
- ○ **B** 80,000
- ○ **C** 5,000
- ○ **D** 400,000

Twelve fresh questions every build. Answers, reasons and expectation codes are in the key at the back — for checking your own work after you finish, not for marking.

SITE WORK · SHEET 4

Integers on a number line

Strand B · Number — 14 of the 44 questions (32%) · expectations B1.2

Below zero is a real place. Distance between two integers is always positive.

1 On a vertical number line, the basement floor is at **-9** and the roof deck is at **15**. How many units apart are they?

B1.2 · AP

- **A** 26
- **B** 24
- **C** 6
- **D** -6

2 On a vertical number line, the basement floor is at **-10** and the roof deck is at **12**. How many units apart are they?

B1.2 · AP

- **A** 24
- **B** 22
- **C** 2
- **D** -2

3 On a vertical number line, the basement floor is at **-12** and the roof deck is at **17**. How many units apart are they?

B1.2 · AP

- **A** 31
- **B** -5
- **C** 5
- **D** 29

4 On a vertical number line, the basement floor is at **-9** and the roof deck is at **7**. How many units apart are they?

B1.2 · AP

- **A** 16
- **B** 18
- **C** -2
- **D** 2

5 On a vertical number line, the basement floor is at **-12** and the roof deck is at **12**. How many units apart are they?

B1.2 · AP

- **A** 26
- **B** 0
- **C** 24
- **D** 22

6 On a vertical number line, the basement floor is at **-6** and the roof deck is at **12**. How many units apart are they?

B1.2 · AP

- **A** -6
- **B** 6
- **C** 18
- **D** 20

7 On a vertical number line, the basement floor is at **-15** and the roof deck is at **6**. How many units apart are they?

B1.2 · AP

- **A** 21
- **B** 9
- **C** -9
- **D** 23

8 On a vertical number line, the basement floor is at **-15** and the roof deck is at **12**. How many units apart are they?

B1.2 · AP

- **A** 27
- **B** 29
- **C** -3
- **D** 3

9 On a vertical number line, the basement floor is at **-19** and the roof deck is at **9**. How many units apart are they?

B1.2 · AP

- **A** -10
- **B** 28
- **C** 30
- **D** 10

10 On a vertical number line, the basement floor is at **-1** and the roof deck is at **4**. How many units apart are they?

B1.2 · AP

- **A** -3
- **B** 7
- **C** 3
- **D** 5

11 On a vertical number line, the basement floor is at **-5** and the roof deck is at **19**. How many units apart are they?

B1.2 · AP

- ○ **A** 14
- ○ **B** -14
- ○ **C** 24
- ○ **D** 26

12 On a vertical number line, the basement floor is at **-8** and the roof deck is at **14**. How many units apart are they?

B1.2 · AP

- ○ **A** 24
- ○ **B** 6
- ○ **C** -6
- ○ **D** 22

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SITE WORK · SHEET 5

Ordering integers, decimals and fractions together

Strand B · Number — 14 of the 44 questions (32%) · expectations B1.3

The hardest ordering questions mix all three. Convert everything to decimals first.

1 Order these from **least to greatest: −3 · −1 · 0.75 · −1/2** B1.3 · AP

- **A** 0.75, −1, −1/2, −3
- **B** 0.75, −1/2, −1, −3
- **C** −1/2, 0.75, −1, −3
- **D** −3, −1, −1/2, 0.75

2 Order these from **least to greatest: −3 · 1.5 · 2 · −1** B1.3 · AP

- **A** 2, 1.5, −1, −3
- **B** −3, −1, 1.5, 2
- **C** 1.5, 2, −1, −3
- **D** −1, 1.5, 2, −3

3 Order these from **least to greatest: 3/4 · −1 · −1/2 · 0.75** B1.3 · AP

- **A** −1, −1/2, 3/4, 0.75
- **B** 0.75, 3/4, −1, −1/2
- **C** 0.75, 3/4, −1/2, −1
- **D** −1/2, 3/4, 0.75, −1

4 Order these from **least to greatest: −3 · 0.2 · 1/2 · 1/4** B1.3 · AP

- **A** 0.2, 1/2, 1/4, −3
- **B** −3, 0.2, 1/4, 1/2
- **C** 0.2, 1/4, 1/2, −3
- **D** 1/2, 1/4, 0.2, −3

5 Order these from **least to greatest: −1/2 · 3/4 · 0.75 · 2** B1.3 · AP

- **A** −1/2, 3/4, 0.75, 2
- **B** 0.75, 2, 3/4, −1/2
- **C** 2, 0.75, 3/4, −1/2
- **D** 155

6 Order these from **least to greatest: 0.75 · 1.5 · −1/2 · 0.2** B1.3 · AP

- **A** 0.2, −1/2, 0.75, 1.5
- **B** −1/2, 0.2, 0.75, 1.5
- **C** 1.5, 0.75, 0.2, −1/2
- **D** 0.2, 0.75, 1.5, −1/2

7 Order these from **least to greatest: −3 · 1/2 · 0.2 · −1** B1.3 · AP

- **A** −3, −1, 0.2, 1/2
- **B** 0.2, 1/2, −1, −3
- **C** 982
- **D** 1/2, 0.2, −1, −3

8 Order these from **least to greatest: 1.5 · 0.75 · 1/2 · 2** B1.3 · AP

- **A** 1/2, 0.75, 1.5, 2
- **B** 947
- **C** 2, 1.5, 0.75, 1/2
- **D** 0.75, 1.5, 1/2, 2

9 Order these from **least to greatest: 1/2 · 3/4 · −1/2 · 0.2** B1.3 · AP

- **A** 3/4, 1/2, 0.2, −1/2
- **B** −1/2, 0.2, 1/2, 3/4
- **C** 0.2, 1/2, −1/2, 3/4
- **D** 0.2, 1/2, 3/4, −1/2

10 Order these from **least to greatest: −1 · −3 · 0.75 · −1/2** B1.3 · AP

- **A** 0.75, −1, −1/2, −3
- **B** −3, −1, −1/2, 0.75
- **C** −1/2, 0.75, −1, −3
- **D** 0.75, −1/2, −1, −3

11 Order these from **least to greatest: 2 · 1.5 · 0.75 · 3/4** B1.3 · AP

- **A** 264
- **B** 0.75, 3/4, 1.5, 2
- **C** 2, 1.5, 3/4, 0.75
- **D** 0.75, 1.5, 2, 3/4

12 Order these from **least to greatest: 1.5 · −1/2 · −3 · 1/4** B1.3 · AP

- **A** −3, −1/2, 1/4, 1.5
- **B** 671
- **C** 1.5, 1/4, −1/2, −3
- **D** 1/4, −1/2, 1.5, −3

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SITE WORK · SHEET 6

Decimals to thousandths

Strand B · Number — 14 of the 44 questions (32%) · expectations B1.4

Line up the decimal points, then compare one place at a time.

1 Which number lies between **7.551** and **7.651**? B1.4 · KU

- **A** 7.451
- **B** 7.531
- **C** 7.681
- **D** 7.601

2 Which number lies between **1.542** and **1.642**? B1.4 · KU

- **A** 1.672
- **B** 1.442
- **C** 1.522
- **D** 1.592

3 Which number lies between **7.479** and **7.579**? B1.4 · KU

- **A** 7.379
- **B** 7.529
- **C** 7.609
- **D** 7.459

4 Which number lies between **1.216** and **1.316**? B1.4 · KU

- **A** 1.116
- **B** 1.346
- **C** 1.196
- **D** 1.266

5 Which number lies between **2.974** and **3.074**? B1.4 · KU

- **A** 3.024
- **B** 2.954
- **C** 3.104
- **D** 2.874

6 Which number lies between **8.564** and **8.664**? B1.4 · KU

- **A** 8.544
- **B** 8.614
- **C** 8.464
- **D** 8.694

7 Which number lies between **1.459** and **1.559**? B1.4 · KU

- **A** 1.439
- **B** 1.589
- **C** 1.359
- **D** 1.509

8 Which number lies between **6.414** and **6.514**? B1.4 · KU

- **A** 6.394
- **B** 6.464
- **C** 6.544
- **D** 6.314

9 Which number lies between **8.588** and **8.688**? B1.4 · KU

- **A** 8.718
- **B** 8.488
- **C** 8.568
- **D** 8.638

10 Which number lies between **7.617** and **7.717**? B1.4 · KU

- **A** 7.517
- **B** 7.597
- **C** 7.747
- **D** 7.667

11 Which number lies between **5.057** and **5.157**? B1.4 · KU

- **A** 5.107
- **B** 5.037
- **C** 4.957
- **D** 5.187

12 Which number lies between **5.914** and **6.014**? B1.4 · KU

- **A** 6.044
- **B** 5.964
- **C** 5.894
- **D** 5.814

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SITE WORK · SHEET 7

Rounding decimals

Strand B · Number — 14 of the 44 questions (32%) · expectations B1.5

Look only at the digit immediately to the right of where you are rounding.

1 Round **73.162** to the nearest **hundredth.** B1.5 · KU

- **A** 73.1
- **B** 74
- **C** 73.16
- **D** 73.17

2 Round **3.013** to the nearest **hundredth.** B1.5 · KU

- **A** 4
- **B** 3.02
- **C** 3.0
- **D** 3.01

3 Round **51.843** to the nearest **hundredth.** B1.5 · KU

- **A** 51.84
- **B** 52
- **C** 51.8
- **D** 51.85

4 Round **90.533** to the nearest **whole number.** B1.5 · KU

- **A** 90.5
- **B** 362
- **C** 91
- **D** 90.54

5 Round **3.546** to the nearest **tenth.** B1.5 · KU

- **A** 3.56
- **B** 3.5
- **C** 4
- **D** 922

6 Round **30.120** to the nearest **tenth.** B1.5 · KU

- **A** 30.1
- **B** 31
- **C** 205
- **D** 30.13

7 Round **92.449** to the nearest **whole number.** B1.5 · KU

- **A** 92.46
- **B** 93
- **C** 92.4
- **D** 92

8 Round **52.139** to the nearest **whole number.** B1.5 · KU

- **A** 52
- **B** 52.15
- **C** 52.1
- **D** 53

9 Round **76.096** to the nearest **hundredth.** B1.5 · KU

- **A** 76.10
- **B** 76.0
- **C** 77
- **D** 76.11

10 Round **24.208** to the nearest **whole number.** B1.5 · KU

- **A** 25
- **B** 24.2
- **C** 24
- **D** 24.22

11 Round **42.020** to the nearest **hundredth.** B1.5 · KU

- **A** 42.0
- **B** 42.03
- **C** 42.02
- **D** 43

12 Round **63.230** to the nearest **whole number.** B1.5 · KU

- **A** 63
- **B** 64
- **C** 63.2
- **D** 63.24

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SITE WORK · SHEET 8

Tenths, hundredths, thousandths

Strand B · Number — 14 of the 44 questions (32%) · expectations B1.6

0.06 is six HUNDREDTHS, not six tenths. A third of students at Level 3 slipped on this.

1 Select the option that is **NOT** equal to **8 hundredths.** B1.6 · AP

- **A** 0.08
- **B** 8.00
- **C** 0.8
- **D** 8/100

2 Select the option that is **NOT** equal to **3 thousandths.** B1.6 · AP

- **A** 0.3
- **B** 3/1000
- **C** 0.003
- **D** 3.000

3 Select the option that is **NOT** equal to **6 thousandths.** B1.6 · AP

- **A** 6.000
- **B** 0.6
- **C** 6/1000
- **D** 0.006

4 Select the option that is **NOT** equal to **1 thousandths.** B1.6 · AP

- **A** 0.001
- **B** 1/1000
- **C** 0.1
- **D** 1.000

5 Select the option that is **NOT** equal to **2 hundredths.** B1.6 · AP

- **A** 0.02
- **B** 2/100
- **C** 2.00
- **D** 0.2

6 Select the option that is **NOT** equal to **4 tenths.** B1.6 · AP

- **A** 4/10
- **B** 0.4
- **C** 4.0
- **D** 0.04

7 Select the option that is **NOT** equal to **2 hundredths.** B1.6 · AP

- **A** 2.00
- **B** 2/100
- **C** 0.2
- **D** 0.02

8 Select the option that is **NOT** equal to **7 thousandths.** B1.6 · AP

- **A** 7/1000
- **B** 0.007
- **C** 0.7
- **D** 7.000

9 Select the option that is **NOT** equal to **7 hundredths.** B1.6 · AP

- **A** 0.7
- **B** 7/100
- **C** 0.07
- **D** 7.00

10 Select the option that is **NOT** equal to **3 hundredths.** B1.6 · AP

- **A** 3.00
- **B** 0.3
- **C** 3/100
- **D** 0.03

11 Select the option that is **NOT** equal to **5 hundredths.** B1.6 · AP

- **A** 0.5
- **B** 5/100
- **C** 0.05
- **D** 5.00

12 Select the option that is **NOT** equal to **7 tenths.** B1.6 · AP

- **A** 7.0
- **B** 7/10
- **C** 0.7
- **D** 0.07

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SITE WORK · SHEET 9

Divisibility rules

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.2

Learn the rules for 2, 3, 4, 5, 6, 8, 9 and 10. They turn long division into a glance.

1 Which number is divisible by **9**? B2.2 · KU

- **A** 342
- **B** 346
- **C** 350
- **D** 343

2 Which number is divisible by **2**? B2.2 · KU

- **A** 510
- **B** 513
- **C** 927
- **D** 511

3 Which number is divisible by **6**? B2.2 · KU

- **A** 557
- **B** 552
- **C** 553
- **D** 555

4 Which number is divisible by **5**? B2.2 · KU

- **A** 575
- **B** 579
- **C** 577
- **D** 576

5 Which number is divisible by **8**? B2.2 · KU

- **A** 212
- **B** 215
- **C** 208
- **D** 209

6 Which number is divisible by **6**? B2.2 · KU

- **A** 577
- **B** 581
- **C** 576
- **D** 579

7 Which number is divisible by **6**? B2.2 · KU

- **A** 911
- **B** 909
- **C** 906
- **D** 907

8 Which number is divisible by **5**? B2.2 · KU

- **A** 480
- **B** 482
- **C** 481
- **D** 484

9 Which number is divisible by **5**? B2.2 · KU

- **A** 201
- **B** 204
- **C** 200
- **D** 202

10 Which number is divisible by **4**? B2.2 · KU

- **A** 548
- **B** 549
- **C** 550
- **D** 551

11 Which number is divisible by **6**? B2.2 · KU

- **A** 427
- **B** 429
- **C** 431
- **D** 426

12 Which number is divisible by **8**? B2.2 · KU

- **A** 487
- **B** 480
- **C** 484
- **D** 481

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SITE WORK · SHEET 10

Primes and factor trees

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.6

A prime has exactly two factors. Multi-select means find them ALL.

1 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 43
- ☐ **B** 23
- ☐ **C** 24
- ☐ **D** 35
- ☐ **E** 49

2 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 51
- ☐ **B** 57
- ☐ **C** 77
- ☐ **D** 47
- ☐ **E** 31

3 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 19
- ☐ **B** 39
- ☐ **C** 13
- ☐ **D** 33
- ☐ **E** 55

4 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 11
- ☐ **B** 35
- ☐ **C** 91
- ☐ **D** 29
- ☐ **E** 27

5 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 91
- ☐ **B** 11
- ☐ **C** 55
- ☐ **D** 42
- ☐ **E** 13

6 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 35
- ☐ **B** 11
- ☐ **C** 57
- ☐ **D** 37
- ☐ **E** 42

7 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 57
- ☐ **B** 37
- ☐ **C** 39
- ☐ **D** 77
- ☐ **E** 23

8 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 21
- ☐ **B** 17
- ☐ **C** 91
- ☐ **D** 37
- ☐ **E** 27

9 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 63
- ☐ **B** 17
- ☐ **C** 19
- ☐ **D** 45
- ☐ **E** 42

10 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 77
- ☐ **B** 39
- ☐ **C** 21
- ☐ **D** 11
- ☐ **E** 17

11 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 47
- ☐ **B** 21
- ☐ **C** 33
- ☐ **D** 29
- ☐ **E** 91

12 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 21
- ☐ **B** 24
- ☐ **C** 17
- ☐ **D** 77
- ☐ **E** 13

Twelve fresh questions every build. Answers, reasons and expectation codes are in the key at the back — for checking your own work after you finish, not for marking.

SITE WORK · SHEET 11

Percents in your head

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.3

Find 10% first. Everything else is built from it.

1 A batch of **800** tiles arrives. **5%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 5
- **B** 80.0
- **C** 400.0
- **D** 40

2 A batch of **800** tiles arrives. **1%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 80.0
- **B** 1
- **C** 8
- **D** 16.0

3 A batch of **400** tiles arrives. **25%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 10
- **B** 100
- **C** 200.0
- **D** 25

4 A batch of **400** tiles arrives. **5%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 20
- **B** 200.0
- **C** 40.0
- **D** 5

5 A batch of **120** tiles arrives. **15%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 1
- **B** 36.0
- **C** 15
- **D** 18

6 A batch of **200** tiles arrives. **5%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 100.0
- **B** 5
- **C** 10
- **D** 20.0

7 A batch of **160** tiles arrives. **50%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 50
- **B** 80
- **C** 160.0
- **D** 8

8 A batch of **400** tiles arrives. **50%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 50
- **B** 400.0
- **C** 20
- **D** 200

9 A batch of **300** tiles arrives. **5%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 5
- **B** 15
- **C** 30.0
- **D** 150.0

10 A batch of **300** tiles arrives. **10%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 30
- **B** 3
- **C** 60.0
- **D** 10

11 A batch of **600** tiles arrives. **1%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 60.0
- **B** 1
- **C** 6
- **D** 12.0

12 A batch of **120** tiles arrives. **10%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 12
- **B** 10
- **C** 24.0
- **D** 1

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SITE WORK · SHEET 12

Adding and subtracting decimals

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.4

Decimal points line up. Digits do not.

1 Two lengths of cedar measure **78.09 m** and **2.36 m**. What is the total length? B2.4 · AP

- **A** 80.55
- **B** 80.45
- **C** 804.50
- **D** 75.73

2 Two lengths of cedar measure **72.66 m** and **3.30 m**. What is the difference? B2.4 · AP

- **A** 75.96
- **B** 69.36
- **C** 69.46
- **D** 693.60

3 Two lengths of cedar measure **87.75 m** and **7.26 m**. What is the difference? B2.4 · AP

- **A** 80.59
- **B** 80.49
- **C** 95.01
- **D** 804.90

4 Two lengths of cedar measure **34.10 m** and **2.52 m**. What is the difference? B2.4 · AP

- **A** 36.62
- **B** 31.58
- **C** 31.68
- **D** 315.80

5 Two lengths of cedar measure **68.63 m** and **3.43 m**. What is the difference? B2.4 · AP

- **A** 65.30
- **B** 652.00
- **C** 72.06
- **D** 65.20

6 Two lengths of cedar measure **19.48 m** and **8.70 m**. What is the difference? B2.4 · AP

- **A** 28.18
- **B** 10.78
- **C** 107.80
- **D** 10.88

7 Two lengths of cedar measure **52.42 m** and **5.78 m**. What is the total length? B2.4 · AP

- **A** 58.30
- **B** 46.64
- **C** 582.00
- **D** 58.20

8 Two lengths of cedar measure **64.21 m** and **5.91 m**. What is the total length? B2.4 · AP

- **A** 70.12
- **B** 58.30
- **C** 70.22
- **D** 701.20

9 Two lengths of cedar measure **59.89 m** and **8.55 m**. What is the total length? B2.4 · AP

- **A** 51.34
- **B** 68.44
- **C** 68.54
- **D** 684.40

10 Two lengths of cedar measure **31.10 m** and **7.27 m**. What is the total length? B2.4 · AP

- **A** 38.37
- **B** 38.47
- **C** 23.83
- **D** 383.70

11 Two lengths of cedar measure **94.93 m** and **3.20 m**. What is the total length? B2.4 · AP

- **A** 91.73
- **B** 98.13
- **C** 981.30
- **D** 98.23

12 Two lengths of cedar measure **95.40 m** and **2.07 m**. What is the difference? B2.4 · AP

- **A** 93.43
- **B** 933.30
- **C** 93.33
- **D** 97.47

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SITE WORK · SHEET 13

Adding and subtracting fractions

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.5

Common denominator first. Never add the denominators.

1 Work out **3/8 + 1/2.** B2.5 · AP

- **A** -1/8
- **B** 2/5
- **C** 7/8
- **D** 3/16

2 Work out **1/3 − 3/10.** B2.5 · AP

- **A** 4/13
- **B** 19/30
- **C** 1/10
- **D** 1/30

3 Work out **1/2 + 5/6.** B2.5 · AP

- **A** 5/12
- **B** 4/3
- **C** -1/3
- **D** 3/4

4 Work out **7/10 + 4/5.** B2.5 · AP

- **A** 14/25
- **B** -1/10
- **C** 3/2
- **D** 11/15

5 Work out **1/10 − 5/8.** B2.5 · AP

- **A** 1/16
- **B** 1/3
- **C** -21/40
- **D** 29/40

6 Work out **1/10 + 4/5.** B2.5 · AP

- **A** -7/10
- **B** 9/10
- **C** 2/25
- **D** 1/3

7 Work out **3/4 − 1/4.** B2.5 · AP

- **A** 5/8
- **B** 3/16
- **C** 1
- **D** 1/2

8 Work out **5/6 − 3/4.** B2.5 · AP

- **A** 19/12
- **B** 1/12
- **C** 4/5
- **D** 5/8

9 Work out **2/3 + 3/4.** B2.5 · AP

- **A** 1/2
- **B** 11/16
- **C** 17/12
- **D** -1/12

10 Work out **1/2 + 1/2.** B2.5 · AP

- **A** 1
- **B** 1/2
- **C** 0
- **D** 1/4

11 Work out **3/4 − 2/5.** B2.5 · AP

- **A** 7/20
- **B** 5/9
- **C** 3/10
- **D** 23/20

12 Work out **1/2 − 1/2.** B2.5 · AP

- **A** 1/4
- **B** 0
- **C** 1
- **D** 1/2

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SITE WORK · SHEET 14

Multiplying by decimal tenths

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.7

Multiply as whole numbers, then put the decimal place back.

1 A run of decking is **972 cm** long. The plan calls for **7.1** times that length in total. How long is that? B2.7 · AP

- **A** 69012 cm
- **B** 690.12 cm
- **C** 979.1 cm
- **D** 6901.2 cm

2 A run of decking is **746 cm** long. The plan calls for **5.2** times that length in total. How long is that? B2.7 · AP

- **A** 387.92 cm
- **B** 38792 cm
- **C** 3879.2 cm
- **D** 751.2 cm

3 A run of decking is **462 cm** long. The plan calls for **2.8** times that length in total. How long is that? B2.7 · AP

- **A** 1293.6 cm
- **B** 12936 cm
- **C** 129.36 cm
- **D** 464.8 cm

4 A run of decking is **371 cm** long. The plan calls for **9.5** times that length in total. How long is that? B2.7 · AP

- **A** 380.5 cm
- **B** 3524.5 cm
- **C** 35245 cm
- **D** 352.45 cm

5 A run of decking is **812 cm** long. The plan calls for **5.0** times that length in total. How long is that? B2.7 · AP

- **A** 40600 cm
- **B** 4060 cm
- **C** 406 cm
- **D** 817 cm

6 A run of decking is **164 cm** long. The plan calls for **5.2** times that length in total. How long is that? B2.7 · AP

- **A** 169.2 cm
- **B** 85.28 cm
- **C** 8528 cm
- **D** 852.8 cm

7 A run of decking is **479 cm** long. The plan calls for **0.7** times that length in total. How long is that? B2.7 · AP

- **A** 335.3 cm
- **B** 3353 cm
- **C** 33.53 cm
- **D** 479.7 cm

8 A run of decking is **500 cm** long. The plan calls for **5.0** times that length in total. How long is that? B2.7 · AP

- **A** 2500 cm
- **B** 250 cm
- **C** 505 cm
- **D** 25000 cm

9 A run of decking is **228 cm** long. The plan calls for **2.8** times that length in total. How long is that? B2.7 · AP

- **A** 63.84 cm
- **B** 230.8 cm
- **C** 6384 cm
- **D** 638.4 cm

10 A run of decking is **134 cm** long. The plan calls for **3.5** times that length in total. How long is that? B2.7 · AP

- **A** 137.5 cm
- **B** 4690 cm
- **C** 469 cm
- **D** 46.9 cm

11 A run of decking is **296 cm** long. The plan calls for **7.9** times that length in total. How long is that? B2.7 · AP

- **A** 23384 cm
- **B** 303.9 cm
- **C** 233.84 cm
- **D** 2338.4 cm

12 A run of decking is **697 cm** long. The plan calls for **3.9** times that length in total. How long is that? B2.7 · AP

- **A** 700.9 cm
- **B** 2718.3 cm
- **C** 27183 cm
- **D** 271.83 cm

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SITE WORK · SHEET 15

Dividing by decimal tenths

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.8

Dividing by a number smaller than 1 makes the answer BIGGER.

1 **53** litres of sealant is poured into cans holding **0.8 L** each. How many cans? B2.8 · AP

- A 42.4
- B 66.2
- C 52.2
- D 6.62

2 **20** litres of sealant is poured into cans holding **0.6 L** each. How many cans? B2.8 · AP

- A 3.33
- B 19.4
- C 12
- D 33.3

3 **37** litres of sealant is poured into cans holding **0.6 L** each. How many cans? B2.8 · AP

- A 6.17
- B 22.2
- C 61.7
- D 36.4

4 **18** litres of sealant is poured into cans holding **0.8 L** each. How many cans? B2.8 · AP

- A 14.4
- B 22.5
- C 2.25
- D 17.2

5 **43** litres of sealant is poured into cans holding **0.8 L** each. How many cans? B2.8 · AP

- A 42.2
- B 5.38
- C 34.4
- D 53.8

6 **52** litres of sealant is poured into cans holding **0.6 L** each. How many cans? B2.8 · AP

- A 86.7
- B 31.2
- C 8.67
- D 51.4

7 **32** litres of sealant is poured into cans holding **0.4 L** each. How many cans? B2.8 · AP

- A 8
- B 80
- C 31.6
- D 12.8

8 **25** litres of sealant is poured into cans holding **0.4 L** each. How many cans? B2.8 · AP

- A 10
- B 62.5
- C 24.6
- D 6.25

9 **23** litres of sealant is poured into cans holding **0.6 L** each. How many cans? B2.8 · AP

- A 22.4
- B 38.3
- C 3.83
- D 13.8

10 **18** litres of sealant is poured into cans holding **0.9 L** each. How many cans? B2.8 · AP

- A 2
- B 17.1
- C 20
- D 16.2

11 **60** litres of sealant is poured into cans holding **0.7 L** each. How many cans? B2.8 · AP

- A 8.57
- B 42
- C 59.3
- D 85.7

12 **27** litres of sealant is poured into cans holding **0.7 L** each. How many cans? B2.8 · AP

- A 18.9
- B 26.3
- C 38.6
- D 3.86

Twelve fresh questions every build. Answers, reasons and expectation codes are in the key at the back — for checking your own work after you finish, not for marking.

SITE WORK · SHEET 16

Whole numbers and proper fractions

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.9 · B2.10

Dividing by a fraction gives more pieces, not fewer.

1 **24** planters are ordered. **1/4** of them are cedar. How many are cedar? B2.9 · AP

- **A** 24.0
- **B** 96
- **C** 6
- **D** 20

2 A **18 m** length of trim is cut into pieces each **1/2 m** long. How many pieces? B2.10 · TH

- **A** 98
- **B** 16
- **C** 36
- **D** 9

3 A **16 m** length of trim is cut into pieces each **2/3 m** long. How many pieces? B2.10 · TH

- **A** 48
- **B** 13
- **C** 24
- **D** 32/3

4 **16** planters are ordered. **1/2** of them are cedar. How many are cedar? B2.9 · AP

- **A** 32
- **B** 16.0
- **C** 14
- **D** 8

5 **18** planters are ordered. **3/6** of them are cedar. How many are cedar? B2.9 · AP

- **A** 12
- **B** 36
- **C** 6.0
- **D** 9

6 A **12 m** length of trim is cut into pieces each **1/6 m** long. How many pieces? B2.10 · TH

- **A** 466
- **B** 2
- **C** 72
- **D** 6

7 **12** planters are ordered. **1/6** of them are cedar. How many are cedar? B2.9 · AP

- **A** 72
- **B** 12.0
- **C** 6
- **D** 2

8 A **16 m** length of trim is cut into pieces each **1/4 m** long. How many pieces? B2.10 · TH

- **A** 12
- **B** 64
- **C** 4
- **D** 338

9 A **12 m** length of trim is cut into pieces each **2/4 m** long. How many pieces? B2.10 · TH

- **A** 24
- **B** 8
- **C** 6
- **D** 48

10 A **24 m** length of trim is cut into pieces each **3/4 m** long. How many pieces? B2.10 · TH

- **A** 18
- **B** 32
- **C** 96
- **D** 20

11 A **18 m** length of trim is cut into pieces each **2/4 m** long. How many pieces? B2.10 · TH

- **A** 14
- **B** 9
- **C** 72
- **D** 36

12 A **12 m** length of trim is cut into pieces each **1/2 m** long. How many pieces? B2.10 · TH

- **A** 24
- **B** 10
- **C** 6
- **D** 952

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SITE WORK · SHEET 17

Dividing decimals by whole numbers

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.11

Keep the decimal point directly above where it started.

1 **27.924 kg** of fixings is shared equally between **3** crates. How much per crate? B2.11 · AP

- **A** 93.08 kg
- **B** 24.924 kg
- **C** 83.772 kg
- **D** 9.308 kg

2 **68.583 kg** of fixings is shared equally between **5** crates. How much per crate? B2.11 · AP

- **A** 342.915 kg
- **B** 63.583 kg
- **C** 137.166 kg
- **D** 13.7166 kg

3 **50.270 kg** of fixings is shared equally between **6** crates. How much per crate? B2.11 · AP

- **A** 83.7833 kg
- **B** 44.27 kg
- **C** 8.3783 kg
- **D** 301.62 kg

4 **52.791 kg** of fixings is shared equally between **5** crates. How much per crate? B2.11 · AP

- **A** 47.791 kg
- **B** 263.955 kg
- **C** 105.582 kg
- **D** 10.5582 kg

5 **44.898 kg** of fixings is shared equally between **2** crates. How much per crate? B2.11 · AP

- **A** 42.898 kg
- **B** 89.796 kg
- **C** 22.449 kg
- **D** 224.49 kg

6 **59.067 kg** of fixings is shared equally between **6** crates. How much per crate? B2.11 · AP

- **A** 53.067 kg
- **B** 354.402 kg
- **C** 98.445 kg
- **D** 9.8445 kg

7 **86.713 kg** of fixings is shared equally between **9** crates. How much per crate? B2.11 · AP

- **A** 780.417 kg
- **B** 9.6348 kg
- **C** 96.3478 kg
- **D** 77.713 kg

8 **84.681 kg** of fixings is shared equally between **10** crates. How much per crate? B2.11 · AP

- **A** 8.4681 kg
- **B** 846.81 kg
- **C** 84.681 kg
- **D** 74.681 kg

9 **60.858 kg** of fixings is shared equally between **8** crates. How much per crate? B2.11 · AP

- **A** 7.6072 kg
- **B** 76.0725 kg
- **C** 52.858 kg
- **D** 486.864 kg

10 **79.734 kg** of fixings is shared equally between **7** crates. How much per crate? B2.11 · AP

- **A** 11.3906 kg
- **B** 558.138 kg
- **C** 113.906 kg
- **D** 72.734 kg

11 **1.861 kg** of fixings is shared equally between **10** crates. How much per crate? B2.11 · AP

- **A** -8.139 kg
- **B** 1.861 kg
- **C** 18.61 kg
- **D** 0.1861 kg

12 **43.067 kg** of fixings is shared equally between **7** crates. How much per crate? B2.11 · AP

- **A** 6.1524 kg
- **B** 301.469 kg
- **C** 36.067 kg
- **D** 61.5243 kg

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SITE WORK · SHEET 18

Ratios, rates and percents

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.12

Rate questions are usually two steps. Find the rate FIRST, then do what the question asks.

1 **75%** of the **60** survey replies asked for a green roof. How many replies? B2.12 · AP

- **A** 45
- **B** -15
- **C** 75
- **D** 4.5

2 **20%** of the **80** survey replies asked for a green roof. How many replies? B2.12 · AP

- **A** 20
- **B** 60
- **C** 16
- **D** 1.6

3 Sand and cement are mixed in the ratio **2 : 5**. If **16 kg** of sand is used, how much cement? B2.12 · AP

- **A** 5 kg
- **B** 40 kg
- **C** 56 kg
- **D** 16 kg

4 **60%** of the **40** survey replies asked for a green roof. How many replies? B2.12 · AP

- **A** 24
- **B** -20
- **C** 60
- **D** 2.4

5 A plotter cuts **240** shapes in **8** minutes. A second plotter runs **twice as fast**. How many shapes per minute does the second one cut? B2.12 · TH

- **A** 35 shapes per minute
- **B** 30 shapes per minute
- **C** 120 shapes per minute
- **D** 60 shapes per minute

6 Sand and cement are mixed in the ratio **2 : 5**. If **16 kg** of sand is used, how much cement? B2.12 · AP

- **A** 16 kg
- **B** 40 kg
- **C** 5 kg
- **D** 56 kg

7 A plotter cuts **420** shapes in **14** minutes. A second plotter runs **twice as fast**. How many shapes per minute does the second one cut? B2.12 · TH

- **A** 210 shapes per minute
- **B** 30 shapes per minute
- **C** 35 shapes per minute
- **D** 60 shapes per minute

8 A plotter cuts **300** shapes in **10** minutes. A second plotter runs **twice as fast**. How many shapes per minute does the second one cut? B2.12 · TH

- **A** 30 shapes per minute
- **B** 150 shapes per minute
- **C** 35 shapes per minute
- **D** 60 shapes per minute

9 A plotter cuts **480** shapes in **16** minutes. A second plotter runs **twice as fast**. How many shapes per minute does the second one cut? B2.12 · TH

- **A** 240 shapes per minute
- **B** 30 shapes per minute
- **C** 60 shapes per minute
- **D** 35 shapes per minute

10 Sand and cement are mixed in the ratio **2 : 5**. If **14 kg** of sand is used, how much cement? B2.12 · AP

- **A** 35 kg
- **B** 49 kg
- **C** 5 kg
- **D** 14 kg

11 Sand and cement are mixed in the ratio **2 : 3**. If **16 kg** of sand is used, how much cement? B2.12 · AP

- **A** 40 kg
- **B** 24 kg
- **C** 16 kg
- **D** 3 kg

12 Sand and cement are mixed in the ratio **2 : 5**. If **18 kg** of sand is used, how much cement? B2.12 · AP

- ○ **A** 63 kg
- ○ **B** 45 kg
- ○ **C** 5 kg
- ○ **D** 18 kg

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SITE WORK · SHEET 19

Multi-step operations

Strand B · Number — 14 of the 44 questions (32%) · expectations B2.1

Ask how many steps before you start, and check you did them all.

1 The studio orders **5** boxes of **18** brackets, then returns **16** brackets. How many are kept? B2.1 · TH

- **A** 106
- **B** 10
- **C** 74
- **D** 90

2 The studio orders **8** boxes of **12** brackets, then returns **6** brackets. How many are kept? B2.1 · TH

- **A** 90
- **B** 48
- **C** 96
- **D** 102

3 The studio orders **4** boxes of **36** brackets, then returns **16** brackets. How many are kept? B2.1 · TH

- **A** 144
- **B** 160
- **C** 80
- **D** 128

4 The studio orders **5** boxes of **39** brackets, then returns **16** brackets. How many are kept? B2.1 · TH

- **A** 211
- **B** 195
- **C** 179
- **D** 115

5 The studio orders **4** boxes of **31** brackets, then returns **15** brackets. How many are kept? B2.1 · TH

- **A** 139
- **B** 64
- **C** 109
- **D** 124

6 The studio orders **4** boxes of **23** brackets, then returns **21** brackets. How many are kept? B2.1 · TH

- **A** 71
- **B** 113
- **C** 92
- **D** 8

7 The studio orders **4** boxes of **33** brackets, then returns **20** brackets. How many are kept? B2.1 · TH

- **A** 52
- **B** 152
- **C** 132
- **D** 112

8 The studio orders **4** boxes of **36** brackets, then returns **29** brackets. How many are kept? B2.1 · TH

- **A** 115
- **B** 144
- **C** 28
- **D** 173

9 The studio orders **5** boxes of **30** brackets, then returns **14** brackets. How many are kept? B2.1 · TH

- **A** 136
- **B** 150
- **C** 164
- **D** 80

10 The studio orders **8** boxes of **34** brackets, then returns **14** brackets. How many are kept? B2.1 · TH

- **A** 286
- **B** 160
- **C** 272
- **D** 258

11 The studio orders **6** boxes of **39** brackets, then returns **27** brackets. How many are kept? B2.1 · TH

- **A** 207
- **B** 72
- **C** 261
- **D** 234

12 The studio orders **8** boxes of **36** brackets, then returns **20** brackets. How many are kept? B2.1 · TH

- **A** 128
- **B** 268
- **C** 308
- **D** 288

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SITE WORK · SHEET 20

Growing, shrinking and linear patterns

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C1.1

Linear means the jump is the same every time. Check every gap, not just the first.

1 A pattern begins **11, 17, 23, 29, …** Which describes it? C1.1 · KU

- ○ **A** linear growing — it goes up by the same amount each time
- ○ **B** non-linear growing — the jump gets bigger each time
- ○ **C** shrinking — it goes down each time
- ○ **D** repeating — the same block comes round again

2 A pattern begins **12, 18, 24, 30, …** Which describes it? C1.1 · KU

- ○ **A** non-linear growing — the jump gets bigger each time
- ○ **B** linear growing — it goes up by the same amount each time
- ○ **C** repeating — the same block comes round again
- ○ **D** shrinking — it goes down each time

3 A pattern begins **6, 9, 12, 15, …** Which describes it? C1.1 · KU

- ○ **A** linear growing — it goes up by the same amount each time
- ○ **B** non-linear growing — the jump gets bigger each time
- ○ **C** shrinking — it goes down each time
- ○ **D** repeating — the same block comes round again

4 A pattern begins **8, 13, 18, 23, …** Which describes it? C1.1 · KU

- ○ **A** shrinking — it goes down each time
- ○ **B** non-linear growing — the jump gets bigger each time
- ○ **C** linear growing — it goes up by the same amount each time
- ○ **D** repeating — the same block comes round again

5 A pattern begins **2, 11, 20, 29, …** Which describes it? C1.1 · KU

- ○ **A** non-linear growing — the jump gets bigger each time
- ○ **B** repeating — the same block comes round again
- ○ **C** shrinking — it goes down each time
- ○ **D** linear growing — it goes up by the same amount each time

6 A pattern begins **3, 10, 17, 24, …** Which describes it? C1.1 · KU

- ○ **A** shrinking — it goes down each time
- ○ **B** linear growing — it goes up by the same amount each time
- ○ **C** non-linear growing — the jump gets bigger each time
- ○ **D** repeating — the same block comes round again

7 A pattern begins **10, 18, 26, 34, …** Which describes it? C1.1 · KU

- ○ **A** shrinking — it goes down each time
- ○ **B** linear growing — it goes up by the same amount each time
- ○ **C** repeating — the same block comes round again
- ○ **D** non-linear growing — the jump gets bigger each time

8 A pattern begins **3, 7, 11, 15, …** Which describes it? C1.1 · KU

- ◯ **A** repeating — the same block comes round again
- ◯ **B** non-linear growing — the jump gets bigger each time
- ◯ **C** shrinking — it goes down each time
- ◯ **D** linear growing — it goes up by the same amount each time

9 A pattern begins **11, 13, 15, 17, …** Which describes it? C1.1 · KU

- ◯ **A** non-linear growing — the jump gets bigger each time
- ◯ **B** shrinking — it goes down each time
- ◯ **C** linear growing — it goes up by the same amount each time
- ◯ **D** repeating — the same block comes round again

10 A pattern begins **4, 9, 14, 19, …** Which describes it? C1.1 · KU

- ◯ **A** repeating — the same block comes round again
- ◯ **B** non-linear growing — the jump gets bigger each time
- ◯ **C** shrinking — it goes down each time
- ◯ **D** linear growing — it goes up by the same amount each time

11 A pattern begins **5, 7, 9, 11, …** Which describes it? C1.1 · KU

- ◯ **A** non-linear growing — the jump gets bigger each time
- ◯ **B** repeating — the same block comes round again
- ◯ **C** linear growing — it goes up by the same amount each time
- ◯ **D** shrinking — it goes down each time

12 A pattern begins **3, 5, 7, 9, …** Which describes it? C1.1 · KU

- ◯ **A** repeating — the same block comes round again
- ◯ **B** shrinking — it goes down each time
- ◯ **C** linear growing — it goes up by the same amount each time
- ◯ **D** non-linear growing — the jump gets bigger each time

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SITE WORK · SHEET 21

Term number versus term value

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C1.3

The question asks for one or the other. Read which. This one defeats 45% of Level 3.

1 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 18 · 28 · 38 · 68
What is the **term number** when the term value is 68? C1.3 · AP

- **A** 15
- **B** 55
- **C** 68
- **D** 13

2 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 7 · 11 · 15 · 23
What is the **term number** when the term value is 23? C1.3 · AP

- **A** 13
- **B** 11
- **C** 23
- **D** 12

3 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 19 · 29 · 39 · 59
What is the **term number** when the term value is 59? C1.3 · AP

- **A** 59
- **B** 48
- **C** 13
- **D** 11

4 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 14 · 22 · 30 · 46
What is the **term number** when the term value is 46? C1.3 · AP

- **A** 13
- **B** 46
- **C** 11
- **D** 35

5 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 16 · 26 · 36 · 56
What is the **term number** when the term value is 56? C1.3 · AP

- **A** 13
- **B** 45
- **C** 11
- **D** 56

6 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 10 · 16 · 22 · 34
What is the **term number** when the term value is 34? C1.3 · AP

- **A** 23
- **B** 11
- **C** 34
- **D** 13

7 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 16 · 24 · 32 · 56
What is the **term number** when the term value is 56? C1.3 · AP

- **A** 56
- **B** 15
- **C** 43
- **D** 13

8 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 13 · 21 · 29 · 61
What is the **term number** when the term value is 61? C1.3 · AP

- ○ **A** 61
- ○ **B** 15
- ○ **C** 46
- ○ **D** 17

9 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 11 · 15 · 19 · 31
What is the **term number** when the term value is 31? C1.3 · AP

- ○ **A** 18
- ○ **B** 15
- ○ **C** 31
- ○ **D** 13

10 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 12 · 18 · 24 · 48
What is the **term number** when the term value is 48? C1.3 · AP

- ○ **A** 15
- ○ **B** 33
- ○ **C** 48
- ○ **D** 17

11 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 18 · 26 · 34 · 50
What is the **term number** when the term value is 50? C1.3 · AP

- ○ **A** 11
- ○ **B** 13
- ○ **C** 50
- ○ **D** 39

12 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 11 · 15 · 19 · 31
What is the **term number** when the term value is 31? C1.3 · AP

- ○ **A** 18
- ○ **B** 15
- ○ **C** 31
- ○ **D** 13

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SITE WORK · SHEET 22

Patterns that meet

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C1.3

Write out all three lists before you choose. Do not stop at the first.

1 Three patterns:
P starts at 1, rule **add 5**
Q starts at 36, rule **subtract 10**
R starts at 2, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 26
- **B** 4
- **C** 16
- **D** 21

2 Three patterns:
P starts at 3, rule **add 3**
Q starts at 61, rule **subtract 10**
R starts at 21, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 42
- **B** 21
- **C** 24
- **D** 51

3 Three patterns:
P starts at 3, rule **add 3**
Q starts at 38, rule **subtract 10**
R starts at 9, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 21
- **B** 28
- **C** 36
- **D** 18

4 Three patterns:
P starts at 3, rule **add 4**
Q starts at 55, rule **subtract 10**
R starts at 15, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 19
- **B** 30
- **C** 15
- **D** 45

5 Three patterns:
P starts at 3, rule **add 3**
Q starts at 41, rule **subtract 10**
R starts at 21, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 31
- **B** 42
- **C** 24
- **D** 21

6 Three patterns:
P starts at 3, rule **add 6**
Q starts at 65, rule **subtract 10**
R starts at 15, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 55
- **B** 21
- **C** 30
- **D** 15

7 Three patterns:
P starts at 3, rule **add 5**
Q starts at 43, rule **subtract 10**
R starts at 23, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- ○ **A** 46
- ○ **B** 23
- ○ **C** 33
- ○ **D** 28

8 Three patterns:
P starts at 3, rule **add 3**
Q starts at 45, rule **subtract 10**
R starts at 15, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- ○ **A** 18
- ○ **B** 35
- ○ **C** 15
- ○ **D** 30

9 Three patterns:
P starts at 2, rule **add 6**
Q starts at 60, rule **subtract 10**
R starts at 5, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- ○ **A** 50
- ○ **B** 26
- ○ **C** 10
- ○ **D** 20

10 Three patterns:
P starts at 3, rule **add 6**
Q starts at 41, rule **subtract 10**
R starts at 21, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- ○ **A** 21
- ○ **B** 42
- ○ **C** 31
- ○ **D** 27

11 Three patterns:
P starts at 1, rule **add 3**
Q starts at 40, rule **subtract 10**
R starts at 5, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- ○ **A** 10
- ○ **B** 20
- ○ **C** 30
- ○ **D** 13

12 Three patterns:
P starts at 2, rule **add 3**
Q starts at 38, rule **subtract 10**
R starts at 2, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- ○ **A** 8
- ○ **B** 11
- ○ **C** 4
- ○ **D** 28

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SITE WORK · SHEET 23

Monomials and expressions

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C2.1 · C2.2

Like terms add. Multiply before you add.

1 Simplify **4x + 9x.** C2.1 · KU

- **A** 4x9
- **B** 13x
- **C** $13x^2$
- **D** 36x

2 Evaluate **9x + 6** when **x = 6.4.** C2.2 · AP

- **A** 51.6
- **B** 21.4
- **C** 63.6
- **D** 111.6

3 Simplify **3x + 9x.** C2.1 · KU

- **A** 12x
- **B** $12x^2$
- **C** 3x9
- **D** 27x

4 Evaluate **7x + 7** when **x = 2.5.** C2.2 · AP

- **A** 16.5
- **B** 10.5
- **C** 66.5
- **D** 24.5

5 Simplify **3x + 7x.** C2.1 · KU

- **A** 10x
- **B** $10x^2$
- **C** 3x7
- **D** 21x

6 Evaluate **3x + 1** when **x = 3.0.** C2.2 · AP

- **A** 12
- **B** 8
- **C** 10
- **D** 7

7 Simplify **5x + 2x.** C2.1 · KU

- **A** 7x
- **B** 10x
- **C** 5x2
- **D** $7x^2$

8 Evaluate **6x + 9** when **x = 3.5.** C2.2 · AP

- **A** 75
- **B** 12
- **C** 18.5
- **D** 30

9 Simplify **8x + 3x.** C2.1 · KU

- **A** 24x
- **B** 8x3
- **C** $11x^2$
- **D** 11x

10 Evaluate **3x + 3** when **x = 6.3.** C2.2 · AP

- **A** 12.3
- **B** 15.9
- **C** 21.9
- **D** 27.9

11 Simplify **8x + 4x.** C2.1 · KU

- **A** 12x
- **B** 32x
- **C** $12x^2$
- **D** 8x4

12 Evaluate **4x + 6** when **x = 1.4.** C2.2 · AP

- **A** 11.6
- **B** 29.6
- **C** -0.4
- **D** 11.4

Twelve fresh questions every build. Answers, reasons and expectation codes are in the key at the back — for checking your own work after you finish, not for marking.

SITE WORK · SHEET 24

Solving equations

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C2.3

Undo the addition first, then the multiplication. On 'which is greatest', solve every option.

1 Solve for x: **3x + 15 = 36** C2.3 · AP

- ○ **A** 21
- ○ **B** 33
- ○ **C** 7
- ○ **D** 22

2 In which equation does **p** have the **greatest** value?

A 3p = 99
B 72 − p = 22
C 56 + p = 96
D 85 + p = 134 C2.3 · TH

- ○ **A** 72 − p = 22
- ○ **B** 3p = 99
- ○ **C** 56 + p = 96
- ○ **D** 85 + p = 134

3 Solve for x: **7x + 13 = 41** C2.3 · AP

- ○ **A** 28
- ○ **B** 4
- ○ **C** 34
- ○ **D** 17

4 In which equation does **p** have the **greatest** value?

A 88 − p = 36
B 74 − p = 21
C 3p = 90
D 93 − p = 50 C2.3 · TH

- ○ **A** 93 − p = 50
- ○ **B** 74 − p = 21
- ○ **C** 88 − p = 36
- ○ **D** 3p = 90

5 Solve for x: **6x + 2 = 56** C2.3 · AP

- ○ **A** 9
- ○ **B** 50
- ○ **C** 54
- ○ **D** 11

6 In which equation does **p** have the **greatest** value?

A 51 − p = 21
B 88 − p = 49
C 88 − p = 57
D 72 + p = 118 C2.3 · TH

- ○ **A** 72 + p = 118
- ○ **B** 51 − p = 21
- ○ **C** 88 − p = 49
- ○ **D** 88 − p = 57

7 Solve for x: **8x + 12 = 68** C2.3 · AP

- ○ **A** 56
- ○ **B** 7
- ○ **C** 19
- ○ **D** 60

8 In which equation does **p** have the **greatest** value?

A 43 + p = 74
B 5p = 265
C 2p = 104
D 5p = 215 C2.3 · TH

- ○ **A** 5p = 215
- ○ **B** 43 + p = 74
- ○ **C** 5p = 265
- ○ **D** 2p = 104

9 Solve for x: **6x + 12 = 72** C2.3 · AP

- ○ **A** 60
- ○ **B** 22
- ○ **C** 66
- ○ **D** 10

10 In which equation does **p** have the **greatest** value?

A 77 − p = 25
B 2p = 66
C 104 − p = 58
D 43 + p = 77 C2.3 · TH

- ○ **A** 104 − p = 58
- ○ **B** 43 + p = 77
- ○ **C** 2p = 66
- ○ **D** 77 − p = 25

11 Solve for x: **5x + 15 = 30** C2.3 · AP

- ○ **A** 18
- ○ **B** 25
- ○ **C** 15
- ○ **D** 3

12 In which equation does **p** have the **greatest** value?

A 56 + p = 108
B 49 + p = 89
C 3p = 90
D 89 + p = 120 C2.3 · TH

- ○ **A** 89 + p = 120
- ○ **B** 56 + p = 108
- ○ **C** 49 + p = 89
- ○ **D** 3p = 90

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SITE WORK · SHEET 25

Inequalities

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C2.4

Solve it as an equation, then test the boundary value itself.

1 Solve the inequality **4x + 8 < 36**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 6
- **B** 8
- **C** 28
- **D** 112

2 Solve the inequality **2x + 12 < 40**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 13
- **B** 15
- **C** 56
- **D** 28

3 Solve the inequality **6x + 2 < 68**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 12
- **B** 396
- **C** 66
- **D** 10

4 Solve the inequality **2x + 3 < 13**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 4
- **B** 10
- **C** 6
- **D** 20

5 Solve the inequality **6x + 12 < 60**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 9
- **B** 48
- **C** 288
- **D** 7

6 Solve the inequality **4x + 9 < 37**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 112
- **B** 6
- **C** 28
- **D** 8

7 Solve the inequality **5x + 8 < 38**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 7
- **B** 150
- **C** 30
- **D** 5

8 Solve the inequality **4x + 7 < 47**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 9
- **B** 11
- **C** 40
- **D** 160

9 Solve the inequality **5x + 3 < 73**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 70
- **B** 15
- **C** 350
- **D** 13

10 Solve the inequality **6x + 8 < 56**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 9
- **B** 288
- **C** 7
- **D** 48

11 Solve the inequality **5x + 1 < 26**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 6
- **B** 25
- **C** 125
- **D** 4

12 Solve the inequality **2x + 8 < 30**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 44
- **B** 10
- **C** 12
- **D** 22

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SITE WORK · SHEET 26

Coding with conditions

Strand C · Algebra — 9 of the 44 questions (20%) · expectations C3.1 · C3.2

A condition must be true EVERY time, not just sometimes.

1 This code should display "**Correct**" when a whole number is divisible by **6**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- **A** has an even last digit
- **B** has a last digit of 0 or 5
- **C** is divisible by both 2 and 5
- **D** is divisible by both 2 and 3

2

```
set total to 10
repeat 6 times
  increase total by 10
end repeat
```

What is **total** at the end? C3.2 · AP

- **A** 956
- **B** 70
- **C** 60
- **D** 20

3 This code should display "**Correct**" when a whole number is divisible by **4**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- **A** has a last digit of 0 or 5
- **B** has an even last digit
- **C** has its last two digits divisible by 4
- **D** is divisible by both 2 and 5

4

```
set total to 9
repeat 5 times
  increase total by 5
end repeat
```

What is **total** at the end? C3.2 · AP

- **A** 50
- **B** 34
- **C** 14
- **D** 25

5 This code should display "**Correct**" when a whole number is divisible by **10**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- ○ **A** has an even last digit
- ○ **B** has a last digit of 0
- ○ **C** is divisible by both 2 and 5
- ○ **D** has a last digit of 0 or 5

6

```
set total to 2
repeat 7 times
  increase total by 10
end repeat
```

What is **total** at the end? C3.2 · AP

- ○ **A** 24
- ○ **B** 12
- ○ **C** 72
- ○ **D** 70

7 This code should display "**Correct**" when a whole number is divisible by **9**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- ○ **A** is divisible by both 2 and 5
- ○ **B** has a digit sum divisible by 9
- ○ **C** has a last digit of 0 or 5
- ○ **D** has an even last digit

8

```
set total to 9
repeat 7 times
  increase total by 5
end repeat
```

What is **total** at the end? C3.2 · AP

- ○ **A** 35
- ○ **B** 44
- ○ **C** 14
- ○ **D** 68

9 This code should display "**Correct**" when a whole number is divisible by **9**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- ○ **A** is divisible by both 2 and 5
- ○ **B** has an even last digit
- ○ **C** has a last digit of 0 or 5
- ○ **D** has a digit sum divisible by 9

10

```
set total to 10
repeat 7 times
  increase total by 5
end repeat
```

What is **total** at the end? C3.2 · AP

- **A** 45
- **B** 35
- **C** 75
- **D** 15

11 This code should display "**Correct**" when a whole number is divisible by **9**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- **A** has an even last digit
- **B** is divisible by both 2 and 5
- **C** has a last digit of 0 or 5
- **D** has a digit sum divisible by 9

12

```
set total to 6
repeat 4 times
  increase total by 3
end repeat
```

What is **total** at the end? C3.2 · AP

- **A** 9
- **B** 12
- **C** 18
- **D** 27

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SITE WORK · SHEET 27

Choosing the right graph

Strand D · Data — 8 of the 44 questions (18%) · expectations D1.3

The single hardest question on the released set — 63% of Level 3 and 44% of Level 4 got it wrong.

1 Which graph best represents **what fraction of the total budget went to each of four trades?** D1.3 · KU

- **A** circle graph
- **B** broken-line graph
- **C** histogram
- **D** bar graph

2 Which graph best represents **visitor numbers grouped into the intervals 0-9, 10-19, 20-29 and 30-39 years of age?** D1.3 · KU

- **A** circle graph
- **B** bar graph
- **C** histogram
- **D** broken-line graph

3 Which graph best represents **visitor numbers grouped into the intervals 0-9, 10-19, 20-29 and 30-39 years of age?** D1.3 · KU

- **A** histogram
- **B** circle graph
- **C** bar graph
- **D** broken-line graph

4 Which graph best represents **what fraction of the total budget went to each of four trades?** D1.3 · KU

- **A** broken-line graph
- **B** bar graph
- **C** histogram
- **D** circle graph

5 Which graph best represents **the mass of every sapling, grouped into the intervals 0-1 kg, 1-2 kg, 2-3 kg?** D1.3 · KU

- **A** broken-line graph
- **B** circle graph
- **C** bar graph
- **D** histogram

6 Which graph best represents **the height of one sapling measured on the first day of each month for a year?** D1.3 · KU

- **A** broken-line graph
- **B** histogram
- **C** circle graph
- **D** bar graph

7 Which graph best represents **the mass of every sapling, grouped into the intervals 0-1 kg, 1-2 kg, 2-3 kg?** D1.3 · KU

- **A** broken-line graph
- **B** histogram
- **C** bar graph
- **D** circle graph

8 Which graph best represents **visitor numbers grouped into the intervals 0-9, 10-19, 20-29 and 30-39 years of age?** D1.3 · KU

- **A** circle graph
- **B** broken-line graph
- **C** histogram
- **D** bar graph

9 Which graph best represents **the mass of every sapling, grouped into the intervals 0-1 kg, 1-2 kg, 2-3 kg?** D1.3 · KU

- **A** circle graph
- **B** bar graph
- **C** broken-line graph
- **D** histogram

10 Which graph best represents **the number of votes for each of five different designs?** D1.3 · KU

- **A** bar graph
- **B** circle graph
- **C** broken-line graph
- **D** histogram

11 Which graph best represents **the number of votes for each of five different designs**? D1.3 · KU

- ◯ **A** broken-line graph
- ◯ **B** bar graph
- ◯ **C** histogram
- ◯ **D** circle graph

12 Which graph best represents **the number of votes for each of five different designs**? D1.3 · KU

- ◯ **A** bar graph
- ◯ **B** broken-line graph
- ◯ **C** histogram
- ◯ **D** circle graph

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SITE WORK · SHEET 28

Range, median, mean and mode

Strand D · Data — 8 of the 44 questions (18%) · expectations D1.5

Four different measures. Order the data before you touch the median.

1 Heights in centimetres: **10, 22, 33, 35, 40**
What is the **median**? D1.5 · TH

- **A** 33
- **B** 40
- **C** 28
- **D** 30

2 Heights in centimetres: **25, 31, 34, 36, 37, 41, 55**
What is the **mean**? D1.5 · TH

- **A** 30
- **B** 36
- **C** 37
- **D** 55

3 Heights in centimetres: **25, 37, 40, 50, 58**
What is the **mean**? D1.5 · TH

- **A** 33
- **B** 42
- **C** 58
- **D** 40

4 Heights in centimetres: **29, 35, 42, 43, 56**
What is the **range**? D1.5 · TH

- **A** 42
- **B** 41
- **C** 56
- **D** 27

5 Heights in centimetres: **19, 23, 27, 35, 40, 43, 44**
What is the **mean**? D1.5 · TH

- **A** 25
- **B** 35
- **C** 33
- **D** 44

6 Heights in centimetres: **11, 14, 37, 38, 49, 51, 59**
What is the **mean**? D1.5 · TH

- **A** 59
- **B** 48
- **C** 38
- **D** 37

7 Heights in centimetres: **15, 26, 44, 45, 55**
What is the **mean**? D1.5 · TH

- **A** 44
- **B** 37
- **C** 55
- **D** 40

8 Heights in centimetres: **13, 22, 23, 48, 54**
What is the **mean**? D1.5 · TH

- **A** 32
- **B** 23
- **C** 41
- **D** 54

9 Heights in centimetres: **12, 16, 19, 45, 51, 54, 55**
What is the **mean**? D1.5 · TH

- **A** 45
- **B** 55
- **C** 43
- **D** 36

10 Heights in centimetres: **10, 15, 31, 33, 46**
What is the **range**? D1.5 · TH

- **A** 27
- **B** 46
- **C** 36
- **D** 31

11 Heights in centimetres: **23, 32, 33, 47, 55**
What is the **mean**? D1.5 · TH

- ○ **A** 33
- ○ **B** 55
- ○ **C** 38
- ○ **D** 32

12 Heights in centimetres: **21, 26, 47, 52, 54**
What is the **median**? D1.5 · TH

- ○ **A** 40
- ○ **B** 54
- ○ **C** 47
- ○ **D** 33

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SITE WORK · SHEET 29

Discrete and continuous data

Strand D · Data — 8 of the 44 questions (18%) · expectations D1.1

Counted in whole steps, or measured on a scale?

1 Is **the number of votes for each design** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** neither
- **C** qualitative
- **D** continuous

2 Is **the height of each sapling** discrete or continuous data? D1.1 · KU

- **A** neither
- **B** continuous
- **C** discrete
- **D** qualitative

3 Is **the number of visitors each day** discrete or continuous data? D1.1 · KU

- **A** continuous
- **B** discrete
- **C** neither
- **D** qualitative

4 Is **the mass of a bag of gravel** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** neither
- **C** continuous
- **D** qualitative

5 Is **the count of bolts in a box** discrete or continuous data? D1.1 · KU

- **A** continuous
- **B** discrete
- **C** qualitative
- **D** neither

6 Is **the mass of a bag of gravel** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** continuous
- **C** neither
- **D** qualitative

7 Is **the number of votes for each design** discrete or continuous data? D1.1 · KU

- **A** qualitative
- **B** discrete
- **C** continuous
- **D** neither

8 Is **the number of votes for each design** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** qualitative
- **C** continuous
- **D** neither

9 Is **the time taken to lay one row of decking** discrete or continuous data? D1.1 · KU

- **A** qualitative
- **B** continuous
- **C** neither
- **D** discrete

10 Is **the height of each sapling** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** continuous
- **C** qualitative
- **D** neither

11 Is **the temperature through the day** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** qualitative
- **C** neither
- **D** continuous

12 Is **the time taken to lay one row of decking** discrete or continuous data? D1.1 · KU

- **A** discrete
- **B** continuous
- **C** neither
- **D** qualitative

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SITE WORK · SHEET 30

Misleading graphs

Strand D · Data — 8 of the 44 questions (18%) · expectations D1.6

Read the axis before the bars. Always.

1 A rival proposal shows a graph where **the vertical axis starts at 80 instead of 0**. Why is this misleading? D1.6 · TH

- **A** Extra dimensions make some bars look bigger than their value.
- **B** Choosing which data to leave out can reverse the apparent trend.
- **C** It exaggerates small differences — the bars look many times taller than each other.
- **D** Unequal intervals distort the shape of the data.

2 A rival proposal shows a graph where **the vertical axis starts at 80 instead of 0**. Why is this misleading? D1.6 · TH

- **A** Unequal intervals distort the shape of the data.
- **B** It exaggerates small differences — the bars look many times taller than each other.
- **C** Extra dimensions make some bars look bigger than their value.
- **D** Choosing which data to leave out can reverse the apparent trend.

3 A rival proposal shows a graph where **the vertical axis starts at 80 instead of 0**. Why is this misleading? D1.6 · TH

- **A** Extra dimensions make some bars look bigger than their value.
- **B** Unequal intervals distort the shape of the data.
- **C** Choosing which data to leave out can reverse the apparent trend.
- **D** It exaggerates small differences — the bars look many times taller than each other.

4 A rival proposal shows a graph where **the bars are drawn as 3-D blocks of different depths**. Why is this misleading? D1.6 · TH

- **A** Choosing which data to leave out can reverse the apparent trend.
- **B** Extra dimensions make some bars look bigger than their value.
- **C** It exaggerates small differences — the bars look many times taller than each other.
- **D** Unequal intervals distort the shape of the data.

5 A rival proposal shows a graph where **the vertical axis starts at 80 instead of 0**. Why is this misleading? D1.6 · TH

- **A** Choosing which data to leave out can reverse the apparent trend.
- **B** Extra dimensions make some bars look bigger than their value.
- **C** Unequal intervals distort the shape of the data.
- **D** It exaggerates small differences — the bars look many times taller than each other.

6 A rival proposal shows a graph where **the intervals on the horizontal axis are not equal widths**. Why is this misleading? D1.6 · TH

- **A** It exaggerates small differences — the bars look many times taller than each other.
- **B** Choosing which data to leave out can reverse the apparent trend.
- **C** Extra dimensions make some bars look bigger than their value.
- **D** Unequal intervals distort the shape of the data.

7 A rival proposal shows a graph where **the bars are drawn as 3-D blocks of different depths**. Why is this misleading? D1.6 · TH

- **A** Choosing which data to leave out can reverse the apparent trend.
- **B** Extra dimensions make some bars look bigger than their value.
- **C** Unequal intervals distort the shape of the data.
- **D** It exaggerates small differences — the bars look many times taller than each other.

8 A rival proposal shows a graph where **the vertical axis starts at 80 instead of 0**. Why is this misleading? D1.6 · TH

- ◯ **A** Unequal intervals distort the shape of the data.
- ◯ **B** Extra dimensions make some bars look bigger than their value.
- ◯ **C** It exaggerates small differences — the bars look many times taller than each other.
- ◯ **D** Choosing which data to leave out can reverse the apparent trend.

9 A rival proposal shows a graph where **the intervals on the horizontal axis are not equal widths**. Why is this misleading? D1.6 · TH

- ◯ **A** Unequal intervals distort the shape of the data.
- ◯ **B** Choosing which data to leave out can reverse the apparent trend.
- ◯ **C** It exaggerates small differences — the bars look many times taller than each other.
- ◯ **D** Extra dimensions make some bars look bigger than their value.

10 A rival proposal shows a graph where **the bars are drawn as 3-D blocks of different depths**. Why is this misleading? D1.6 · TH

- ◯ **A** Extra dimensions make some bars look bigger than their value.
- ◯ **B** Unequal intervals distort the shape of the data.
- ◯ **C** It exaggerates small differences — the bars look many times taller than each other.
- ◯ **D** Choosing which data to leave out can reverse the apparent trend.

11 A rival proposal shows a graph where **the bars are drawn as 3-D blocks of different depths**. Why is this misleading? D1.6 · TH

- ◯ **A** Extra dimensions make some bars look bigger than their value.
- ◯ **B** Choosing which data to leave out can reverse the apparent trend.
- ◯ **C** It exaggerates small differences — the bars look many times taller than each other.
- ◯ **D** Unequal intervals distort the shape of the data.

12 A rival proposal shows a graph where **only three of the twelve months are shown**. Why is this misleading? D1.6 · TH

- ◯ **A** Unequal intervals distort the shape of the data.
- ◯ **B** It exaggerates small differences — the bars look many times taller than each other.
- ◯ **C** Extra dimensions make some bars look bigger than their value.
- ◯ **D** Choosing which data to leave out can reverse the apparent trend.

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SITE WORK · SHEET 31

Probability as fractions, decimals and percents

Strand D · Data — 8 of the 44 questions (18%) · expectations D2.1 · D2.2

One event: part over whole. Two independent events: multiply.

1 A bag holds **10** tiles and **1** are cracked. What is the probability of drawing a cracked tile, in **simplest form**? D2.1 · AP

- **A** 1/11
- **B** 10/1
- **C** 1/9
- **D** 1/10

2 Two independent events: a fair spinner with **2** equal sections, and a fair coin. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 482
- **B** 2/4
- **C** 1/4
- **D** 2/2

3 A bag holds **20** tiles and **8** are cracked. What is the probability of drawing a cracked tile, in **simplest form**? D2.1 · AP

- **A** 8/28
- **B** 8/12
- **C** 2/5
- **D** 20/8

4 Two independent events: a fair spinner with **2** equal sections, and a fair 3-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 1/6
- **B** 2/3
- **C** 2/6
- **D** 1/5

5 A spinner has **12** equal sections. **10** of them are green. What is the probability of landing on green, as a **percent**? D2.1 · AP

- **A** 41.6667%
- **B** 83.3333%
- **C** 2%
- **D** 10%

6 Two independent events: a fair spinner with **2** equal sections, and a fair 6-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 2/6
- **B** 1/12
- **C** 2/12
- **D** 1/8

7 A bag holds **8** tiles and **3** are cracked. What is the probability of drawing a cracked tile, in **simplest form**? D2.1 · AP

- **A** 3/8
- **B** 3/5
- **C** 8/3
- **D** 3/11

8 Two independent events: a fair spinner with **6** equal sections, and a fair 6-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 2/36
- **B** 1/12
- **C** 6/6
- **D** 1/36

9 A bag holds **10** tiles and **6** are cracked. What is the probability of drawing a cracked tile, in **simplest form**? D2.1 · AP

- **A** 10/6
- **B** 6/4
- **C** 6/16
- **D** 3/5

10 Two independent events: a fair spinner with **2** equal sections, and a fair 6-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 1/8
- **B** 2/6
- **C** 2/12
- **D** 1/12

11 A bag holds **12** tiles and **3** are cracked. What is the probability of drawing a cracked tile, in **simplest form**? D2.1 · AP

- ○ **A** 3/9
- ○ **B** 1/4
- ○ **C** 12/3
- ○ **D** 3/15

12 Two independent events: a fair spinner with **3** equal sections, and a fair 3-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- ○ **A** 1/9
- ○ **B** 3/3
- ○ **C** 1/6
- ○ **D** 2/9

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SITE WORK · SHEET 32

Quadrilaterals and symmetry

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E1.1

Square 4 lines, rectangle 2, rhombus 2, kite 1, parallelogram 0. Learn these cold.

1 Which shape has **exactly 2** lines of symmetry? E1.1 · KU

- **A** trapezoid
- **B** parallelogram
- **C** kite
- **D** rectangle

2 Which statement describes the **diagonals** of a **trapezoid**? E1.1 · KU

- **A** equal, perpendicular, bisect each other
- **B** perpendicular and bisect each other, not equal
- **C** equal and bisect each other, not perpendicular
- **D** neither equal nor bisecting

3 Which shape has **exactly 2** lines of symmetry? E1.1 · KU

- **A** kite
- **B** rhombus
- **C** parallelogram
- **D** square

4 Which statement describes the **diagonals** of a **rectangle**? E1.1 · KU

- **A** equal and bisect each other, not perpendicular
- **B** bisect each other only
- **C** perpendicular and bisect each other, not equal
- **D** equal, perpendicular, bisect each other

5 Which shape has **exactly 2** lines of symmetry? E1.1 · KU

- **A** isosceles trapezoid
- **B** square
- **C** rectangle
- **D** trapezoid

6 Which statement describes the **diagonals** of a **rhombus**? E1.1 · KU

- **A** bisect each other only
- **B** equal and bisect each other, not perpendicular
- **C** perpendicular and bisect each other, not equal
- **D** equal, perpendicular, bisect each other

7 Which shape has **exactly 1** line of symmetry? E1.1 · KU

- **A** trapezoid
- **B** isosceles trapezoid
- **C** square
- **D** rectangle

8 Which statement describes the **diagonals** of a **kite**? E1.1 · KU

- **A** equal, perpendicular, bisect each other
- **B** equal and bisect each other, not perpendicular
- **C** perpendicular, one bisects the other
- **D** perpendicular and bisect each other, not equal

9 Which shape has **exactly 4** lines of symmetry? E1.1 · KU

- **A** isosceles trapezoid
- **B** square
- **C** parallelogram
- **D** trapezoid

10 Which statement describes the **diagonals** of a **trapezoid**? E1.1 · KU

- ◯ **A** neither equal nor bisecting
- ◯ **B** equal and bisect each other, not perpendicular
- ◯ **C** equal, perpendicular, bisect each other
- ◯ **D** perpendicular and bisect each other, not equal

11 Which shape has **exactly 2** lines of symmetry? E1.1 · KU

- ◯ **A** trapezoid
- ◯ **B** parallelogram
- ◯ **C** kite
- ◯ **D** rhombus

12 Which statement describes the **diagonals** of a **isosceles trapezoid**? E1.1 · KU

- ◯ **A** perpendicular and bisect each other, not equal
- ◯ **B** equal and bisect each other, not perpendicular
- ◯ **C** equal, perpendicular, bisect each other
- ◯ **D** equal, do not bisect

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SITE WORK · SHEET 33

Views and nets

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E1.2

Take one view at a time and rule solids out.

1 Which 3-D object gives **a square from the top, front and side?** E1.2 · AP

- **A** a rectangular prism
- **B** a square pyramid
- **C** a cylinder
- **D** a cube

2 Which 3-D object gives **a square from the top, a triangle from the front and side?** E1.2 · AP

- **A** a cube
- **B** a rectangular prism
- **C** a square pyramid
- **D** a cylinder

3 Which 3-D object gives **a square from the top, a triangle from the front and side?** E1.2 · AP

- **A** a square pyramid
- **B** a cube
- **C** a rectangular prism
- **D** a cylinder

4 Which 3-D object gives **a rectangle from the top and front, a square from the side?** E1.2 · AP

- **A** a cylinder
- **B** a cube
- **C** a rectangular prism
- **D** a square pyramid

5 Which 3-D object gives **a rectangle from the top and front, a square from the side?** E1.2 · AP

- **A** a cube
- **B** a rectangular prism
- **C** a square pyramid
- **D** a cylinder

6 Which 3-D object gives **a square from the top, a triangle from the front and side?** E1.2 · AP

- **A** a cylinder
- **B** a cube
- **C** a square pyramid
- **D** a rectangular prism

7 Which 3-D object gives **a circle from the top, a rectangle from the front and side?** E1.2 · AP

- **A** a square pyramid
- **B** a cube
- **C** a cylinder
- **D** a rectangular prism

8 Which 3-D object gives **a circle from the top, a triangle from the front and side?** E1.2 · AP

- **A** a cylinder
- **B** a cube
- **C** a cone
- **D** a rectangular prism

9 Which 3-D object gives **a square from the top, a triangle from the front and side?** E1.2 · AP

- **A** a cylinder
- **B** a cube
- **C** a square pyramid
- **D** a rectangular prism

10 Which 3-D object gives **a circle from the top, a rectangle from the front and side?** E1.2 · AP

- **A** a square pyramid
- **B** a cube
- **C** a rectangular prism
- **D** a cylinder

11 Which 3-D object gives **a square from the top, front and side?** E1.2 · AP

- **A** a square pyramid
- **B** a cube
- **C** a cylinder
- **D** a rectangular prism

12 Which 3-D object gives **a circle from the top, a rectangle from the front and side?** E1.2 · AP

- **A** a square pyramid
- **B** a rectangular prism
- **C** a cylinder
- **D** a cube

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SITE WORK · SHEET 34

The four-quadrant plane

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E1.3

Subtract start from finish. Watch the signs in the negative quadrants.

1 A point moves from **(8, 5)** to **(8, 9)**. Describe the translation. E1.3 · AP

- **A** 4 right
- **B** 583
- **C** 4 up
- **D** 4 dow

2 A point moves from **(8, 4)** to **(8, 3)**. Describe the translation. E1.3 · AP

- **A** 1 up
- **B** 1 right
- **C** 1 left
- **D** 1 down

3 A point moves from **(-8, -1)** to **(-5, 1)**. Describe the translation. E1.3 · AP

- **A** 5 right
- **B** 3 right and 2 up
- **C** 2 right and 3 up
- **D** 3 left and 2 dow

4 A point moves from **(-1, -3)** to **(-7, -1)**. Describe the translation. E1.3 · AP

- **A** 2 right and 6 dow
- **B** 6 right and 2 dow
- **C** 8 right
- **D** 6 left and 2 up

5 A point moves from **(-6, -7)** to **(-7, -7)**. Describe the translation. E1.3 · AP

- **A** 1 right
- **B** 801
- **C** 1 dow
- **D** 1 left

6 A point moves from **(-2, 7)** to **(-3, 4)**. Describe the translation. E1.3 · AP

- **A** 3 left and 1 dow
- **B** 1 left and 3 down
- **C** 4 right
- **D** 1 right and 3 up

7 A point moves from **(5, -1)** to **(0, 4)**. Describe the translation. E1.3 · AP

- **A** 10 right
- **B** 494
- **C** 5 right and 5 dow
- **D** 5 left and 5 up

8 A point moves from **(-4, 3)** to **(-1, -3)**. Describe the translation. E1.3 · AP

- **A** 6 left and 3 up
- **B** 3 right and 6 down
- **C** 9 right
- **D** 3 left and 6 up

9 A point moves from **(-4, 0)** to **(1, -1)**. Describe the translation. E1.3 · AP

- **A** 1 left and 5 up
- **B** 5 right and 1 down
- **C** 5 left and 1 up
- **D** 6 right

10 A point moves from **(-7, 1)** to **(-11, -5)**. Describe the translation. E1.3 · AP

- **A** 4 left and 6 down
- **B** 4 right and 6 up
- **C** 10 right
- **D** 6 left and 4 dow

11 A point moves from **(8, -4)** to **(13, -1)**. Describe the translation. E1.3 · AP

- **A** 8 right
- **B** 3 right and 5 up
- **C** 5 right and 3 up
- **D** 5 left and 3 dow

12 A point moves from **(-6, 4)** to **(0, 0)**. Describe the translation. E1.3 · AP

- **A** 10 right
- **B** 4 left and 6 up
- **C** 6 right and 4 down
- **D** 6 left and 4 up

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SITE WORK · SHEET 35

Transformations

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E1.4

A full turn is 360°, so every rotation has an equal-and-opposite partner.

1 A rotation of **180° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 180° clockwise
- **B** 384
- **C** 180° counterclockwise
- **D** 592

2 A rotation of **180° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 501
- **B** 180° counterclockwise
- **C** 656
- **D** 180° clockwise

3 A rotation of **90° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 270° clockwise
- **B** 773
- **C** 270° counterclockwise
- **D** 90° counterclockwise

4 A rotation of **180° counterclockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 246
- **B** 180° clockwise
- **C** 180° counterclockwise
- **D** 866

5 A rotation of **90° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 270° clockwise
- **B** 907
- **C** 270° counterclockwise
- **D** 90° counterclockwise

6 A rotation of **90° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 90° counterclockwise
- **B** 908
- **C** 270° clockwise
- **D** 270° counterclockwise

7 A rotation of **90° counterclockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 90° clockwise
- **B** 123
- **C** 270° counterclockwise
- **D** 270° clockwise

8 A rotation of **270° counterclockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 270° clockwise
- **B** 90° counterclockwise
- **C** 90° clockwise
- **D** 635

9 A rotation of **90° counterclockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 270° counterclockwise
- **B** 90° clockwise
- **C** 592
- **D** 270° clockwise

10 A rotation of **180° counterclockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 180° counterclockwise
- **B** 180° clockwise
- **C** 816
- **D** 794

11 A rotation of **270° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 90° counterclockwise
- **B** 737
- **C** 90° clockwise
- **D** 270° counterclockwise

12 A rotation of **90° counterclockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 6
- **B** 270° counterclockwise
- **C** 90° clockwise
- **D** 270° clockwise

Twelve fresh questions every build. Answers, reasons and expectation codes are in the key at the back — for checking your own work after you finish, not for marking.

SITE WORK · SHEET 36

Metric conversions

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E2.1

Smaller unit to bigger unit means divide.

1 Convert **4800 g** to **kg.** E2.1 · AP

- **A** 48 kg
- **B** 4.8 kg
- **C** 4.8e+06 kg
- **D** 0.48 kg

2 Convert **250 mL** to **L.** E2.1 · AP

- **A** 0.025 L
- **B** 2.5 L
- **C** 250000 L
- **D** 0.25 L

3 Convert **250 mm** to **cm.** E2.1 · AP

- **A** 2.5 cm
- **B** 250 cm
- **C** 2500 cm
- **D** 25 cm

4 Convert **1500 cm²** to **m².** E2.1 · AP

- **A** 0.15 m^2
- **B** 1.5 m^2
- **C** 0.015 m^2
- **D** 1.5e+07 m^2

5 Convert **500 cm²** to **m².** E2.1 · AP

- **A** 0.5 m^2
- **B** 0.005 m^2
- **C** 0.05 m^2
- **D** 5e+06 m^2

6 Convert **2500 g** to **kg.** E2.1 · AP

- **A** 25 kg
- **B** 2.5 kg
- **C** 0.25 kg
- **D** 2.5e+06 kg

7 Convert **1500 mm** to **cm.** E2.1 · AP

- **A** 15 cm
- **B** 150 cm
- **C** 15000 cm
- **D** 1500 cm

8 Convert **2500 mm** to **cm.** E2.1 · AP

- **A** 250 cm
- **B** 2500 cm
- **C** 25 cm
- **D** 25000 cm

9 Convert **500 g** to **kg.** E2.1 · AP

- **A** 0.5 kg
- **B** 500000 kg
- **C** 5 kg
- **D** 0.05 kg

10 Convert **500 mm** to **cm.** E2.1 · AP

- **A** 50 cm
- **B** 5000 cm
- **C** 500 cm
- **D** 5 cm

11 Convert **500 mL** to **L.** E2.1 · AP

- **A** 0.05 L
- **B** 0.5 L
- **C** 5 L
- **D** 500000 L

12 Convert **2500 mL** to **L.** E2.1 · AP

- **A** 2.5 L
- **B** 25 L
- **C** 2.5e+06 L
- **D** 0.25 L

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SITE WORK · SHEET 37

Angles all the way round

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E2.2 · E2.3

Clockwise plus counterclockwise equals 360°. Only 26% of Level 2 handled this.

1 The **acute** angle between Line A and Line B is **28°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 208°
- **B** 152°
- **C** 62°
- **D** 332°

2 Two angles are **supplementary**. One is **67°**. What is the other? E2.3 · KU

- **A** 23°
- **B** 67°
- **C** 113°
- **D** 293°

3 The **acute** angle between Line A and Line B is **63°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 117°
- **B** 297°
- **C** 27°
- **D** 243°

4 Two lines cross. One angle is **20°**. What is the angle **opposite** it? E2.3 · KU

- **A** 70°
- **B** 340°
- **C** 160°
- **D** 20°

5 The **acute** angle between Line A and Line B is **63°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 297°
- **B** 27°
- **C** 117°
- **D** 243°

6 Two angles are **supplementary**. One is **54°**. What is the other? E2.3 · KU

- **A** 126°
- **B** 306°
- **C** 36°
- **D** 54°

7 The **acute** angle between Line A and Line B is **35°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 55°
- **B** 325°
- **C** 145°
- **D** 215°

8 Two angles are **supplementary**. One is **23°**. What is the other? E2.3 · KU

- **A** 337°
- **B** 23°
- **C** 157°
- **D** 67°

9 The **acute** angle between Line A and Line B is **63°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 117°
- **B** 297°
- **C** 27°
- **D** 243°

10 Two lines cross. One angle is **59°**. What is the angle **opposite** it? E2.3 · KU

- **A** 59°
- **B** 121°
- **C** 301°
- **D** 31°

11 The **acute** angle between Line A and Line B is **48°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 228°
- **B** 132°
- **C** 42°
- **D** 312°

12 Two angles are **supplementary**. One is **41°**. What is the other? E2.3 · KU

- **A** 41°
- **B** 49°
- **C** 139°
- **D** 319°

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SITE WORK · SHEET 38

Composite area

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E2.4

Decompose into shapes you already know, then add or subtract.

1 A rectangle of decking measures **20 cm by 14 cm**. A rectangular notch measuring **4 cm by 8 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 248 cm²
- **B** 268 cm²
- **C** 280 cm²
- **D** 312 cm²

2 A trapezoid has parallel sides of **10 cm** and **16 cm** and a height of **6 cm**. What is its area? E2.4 · AP

- **A** 160 cm²
- **B** 156 cm²
- **C** 78 cm²
- **D** 18 cm²

3 A rectangle of decking measures **15 cm by 12 cm**. A rectangular notch measuring **5 cm by 6 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 180 cm²
- **B** 210 cm²
- **C** 169 cm²
- **D** 150 cm²

4 A trapezoid has parallel sides of **9 cm** and **15 cm** and a height of **4 cm**. What is its area? E2.4 · AP

- **A** 48 cm²
- **B** 12 cm²
- **C** 135 cm²
- **D** 96 cm²

5 A rectangle of decking measures **20 cm by 14 cm**. A rectangular notch measuring **5 cm by 6 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 269 cm²
- **B** 280 cm²
- **C** 310 cm²
- **D** 250 cm²

6 A trapezoid has parallel sides of **9 cm** and **15 cm** and a height of **6 cm**. What is its area? E2.4 · AP

- **A** 72 cm²
- **B** 135 cm²
- **C** 144 cm²
- **D** 18 cm²

7 A rectangle of decking measures **18 cm by 10 cm**. A rectangular notch measuring **4 cm by 8 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 168 cm²
- **B** 148 cm²
- **C** 212 cm²
- **D** 180 cm²

8 A trapezoid has parallel sides of **10 cm** and **16 cm** and a height of **4 cm**. What is its area? E2.4 · AP

- **A** 104 cm²
- **B** 12 cm²
- **C** 52 cm²
- **D** 160 cm²

9 A rectangle of decking measures **18 cm by 10 cm**. A rectangular notch measuring **6 cm by 4 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 170 cm²
- **B** 156 cm²
- **C** 204 cm²
- **D** 180 cm²

10 A trapezoid has parallel sides of **6 cm** and **12 cm** and a height of **8 cm**. What is its area? E2.4 · AP

- **A** 144 cm²
- **B** 24 cm²
- **C** 72 cm²
- **D** 21

11 A rectangle of decking measures **16 cm by 11 cm**. A rectangular notch measuring **5 cm by 6 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 176 cm²
- **B** 165 cm²
- **C** 206 cm²
- **D** 146 cm²

12 A trapezoid has parallel sides of **10 cm** and **16 cm** and a height of **10 cm**. What is its area? E2.4 · AP

- ○ **A** 160 cm^2
- ○ **B** 260 cm^2
- ○ **C** 30 cm^2
- ○ **D** 130 cm^2

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SITE WORK · SHEET 39

Surface area

Strand E · Spatial Sense — 9 of the 44 questions (20%) · expectations E2.5 · E2.6

Surface area is cm², not cm³. Six faces in three matching pairs.

1 A planter is a rectangular prism **9 cm × 5 cm × 6 cm**. What is its **surface area**? E2.6 · AP

- **A** 40 cm²
- **B** 129 cm²
- **C** 258 cm²
- **D** 270 cm³

2 A planter is a rectangular prism **6 cm × 5 cm × 9 cm**. What is its **surface area**? E2.6 · AP

- **A** 258 cm²
- **B** 40 cm²
- **C** 270 cm³
- **D** 129 cm²

3 A planter is a rectangular prism **7 cm × 4 cm × 5 cm**. What is its **surface area**? E2.6 · AP

- **A** 166 cm²
- **B** 83 cm²
- **C** 140 cm³
- **D** 32 cm²

4 A planter is a rectangular prism **4 cm × 9 cm × 6 cm**. What is its **surface area**? E2.6 · AP

- **A** 216 cm³
- **B** 114 cm²
- **C** 228 cm²
- **D** 38 cm²

5 A planter is a rectangular prism **5 cm × 10 cm × 6 cm**. What is its **surface area**? E2.6 · AP

- **A** 42 cm²
- **B** 140 cm²
- **C** 300 cm³
- **D** 280 cm²

6 A planter is a rectangular prism **10 cm × 10 cm × 8 cm**. What is its **surface area**? E2.6 · AP

- **A** 56 cm²
- **B** 520 cm²
- **C** 260 cm²
- **D** 800 cm³

7 A planter is a rectangular prism **6 cm × 5 cm × 10 cm**. What is its **surface area**? E2.6 · AP

- **A** 280 cm²
- **B** 42 cm²
- **C** 140 cm²
- **D** 300 cm³

8 A planter is a rectangular prism **7 cm × 7 cm × 5 cm**. What is its **surface area**? E2.6 · AP

- **A** 38 cm²
- **B** 119 cm²
- **C** 238 cm²
- **D** 245 cm³

9 A planter is a rectangular prism **10 cm × 5 cm × 9 cm**. What is its **surface area**? E2.6 · AP

- **A** 370 cm²
- **B** 450 cm³
- **C** 185 cm²
- **D** 48 cm²

10 A planter is a rectangular prism **6 cm × 6 cm × 8 cm**. What is its **surface area**? E2.6 · AP

- **A** 264 cm²
- **B** 288 cm³
- **C** 40 cm²
- **D** 132 cm²

11 A planter is a rectangular prism **8 cm × 5 cm × 9 cm**. What is its **surface area**? E2.6 · AP

- **A** 360 cm³
- **B** 44 cm²
- **C** 157 cm²
- **D** 314 cm²

12 A planter is a rectangular prism **3 cm × 9 cm × 5 cm**. What is its **surface area**? E2.6 · AP

- **A** 174 cm²
- **B** 135 cm³
- **C** 34 cm²
- **D** 87 cm²

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SITE WORK · SHEET 40

Money, goals and interest

Strand F · Financial Literacy — 4 of the 44 questions (9%) · expectations F1.1–F1.5

Four questions on the real assessment. All four are worth having.

1 Which statement describes a **e-transfer**? F1.1 · KU

- **A** often charges a high interest rate on any unpaid balance
- **B** cannot be traced or reversed if it is lost
- **C** takes the money straight from your own bank account
- **D** moves money between accounts electronically, usually with a fee or a limit

2 **Taking a weekend job to raise money for a trip** — what is this? F1.2 · KU

- **A** a factor that interferes with a goal
- **B** a saving goal
- **C** an earning goal
- **D** a step that helps reach a goal

3 The studio borrows **$1500** at **6%** simple interest for one year. How much interest is owed after one year? F1.4 · AP

- **A** $90
- **B** $9000
- **C** $1590
- **D** $6

4 Which word means **swapping one thing for another without money changing hands**? F1.5 · KU

- **A** borrowing
- **B** lending
- **C** trading
- **D** donating

5 Which statement describes a **cash**? F1.1 · KU

- **A** takes the money straight from your own bank account
- **B** moves money between accounts electronically, usually with a fee or a limit
- **C** cannot be traced or reversed if it is lost
- **D** often charges a high interest rate on any unpaid balance

6 **Taking a weekend job to raise money for a trip** — what is this? F1.2 · KU

- **A** an earning goal
- **B** a saving goal
- **C** a step that helps reach a goal
- **D** a factor that interferes with a goal

7 The studio borrows **$1500** at **5%** simple interest for one year. How much interest is owed after one year? F1.4 · AP

- **A** $1575
- **B** $5
- **C** $75
- **D** $7500

8 Which word means **giving something now on the understanding it comes back later**? F1.5 · KU

- **A** borrowing
- **B** donating
- **C** trading
- **D** lending

9 Which method of payment **takes the money straight from your own bank account**? F1.1 · KU

- **A** cash
- **B** debit card
- **C** e-transfer
- **D** credit card

10 **Taking a weekend job to raise money for a trip** — what is this? F1.2 · KU

- ◯ **A** an earning goal
- ◯ **B** a step that helps reach a goal
- ◯ **C** a factor that interferes with a goal
- ◯ **D** a saving goal

11 The studio borrows **$200** at **3%** simple interest for one year. How much interest is owed after one year? F1.4 · AP

- ◯ **A** $6
- ◯ **B** $3
- ◯ **C** $206
- ◯ **D** $600

12 Which word means **giving something now on the understanding it comes back later**? F1.5 · KU

- ◯ **A** lending
- ◯ **B** borrowing
- ◯ **C** trading
- ◯ **D** donating

Twelve fresh questions every build. Answers, reasons and expectation codes are in the key at the back — for checking your own work after you finish, not for marking.

The Bridge That Breathes

Informational text · 4 selected-response + 1 open-response — read it twice. The second time, mark anything the writer shows you without saying it outright.

Why engineers leave gaps on purpose

Walk across a long bridge on a hot afternoon and you may hear it. A faint knock, then another, spaced out like a slow heartbeat. Those sounds come from the expansion joints — deliberate gaps built into the deck, usually covered by a steel comb that lets the two halves slide past each other.

The gaps are there because metal and concrete do not stay the same size. Steel expands roughly 12 millionths of its length for every degree Celsius it warms. That sounds like nothing. Over a 500-metre bridge, though, a 40-degree swing between a January night and a July afternoon moves the deck about 24 centimetres. A structure built with no room to move would not simply groan. It would buckle, crack, or tear its own bearings off the piers.

What happens when the gap is wrong

Too small a gap and the deck fights itself. Engineers call the result thermal stress, and it can lift a roadway into a visible hump. Too large a gap and the joint becomes a hazard: wheels drop in, water pours onto the steelwork below, and salt follows the water. Corrosion then does slowly what heat would have done quickly.

So every joint is calculated, not guessed. Designers take the longest span, the coldest recorded night and the hottest recorded day, and work out the movement. Then they add a margin — because a bridge is expected to last a century, and a century is long enough for the climate itself to shift.

The maintenance nobody sees

Expansion joints are among the first parts of a bridge to wear out. They take every wheel, every snowplough blade and every load of road salt. Most are designed to be replaced two or three times over the life of the structure, which is why inspectors examine them first. A joint that has seized solid is not a small fault. It means the bridge has quietly lost its ability to breathe, and the forces that used to escape through the gap are now travelling into the concrete instead.

Before you turn the page. In one sentence: what is this *mostly* about? Write it in the margin. If you cannot, read it again.

Original text written for this book. Length matched to the EQAO Junior Framework specification.

The Bridge That Breathes — questions

Informational text · 4 selected-response + 1 open-response. Turn back to the text as often as you like — that is what a reader does.

1 What is this text **mostly** about? C2.6 · AP

- ○ **A** Why bridges are built with deliberate gaps, and what goes wrong when the gaps are the wrong size
- ○ **B** How steel is manufactured for use in large structures
- ○ **C** The history of bridge building over the last century
- ○ **D** Why road salt damages vehicles in winter

2 Which **text feature** helps a reader find the section about faults? C1.3 · AP

- ○ **A** the subheading “What happens when the gap is wrong”
- ○ **B** the number 12 millionths
- ○ **C** the word “corrosion”
- ○ **D** the length of the paragraphs

3 The text says corrosion “does slowly what heat would have done quickly.” This is an example of… C3.1 · AP

- ○ **A** a comparison that contrasts two rates of damage
- ○ **B** a statistic used as evidence
- ○ **C** a direct quotation from an engineer
- ○ **D** a definition of a technical term

4 What does **seized** mean in “a joint that has seized solid”? B2.2 · AP

- ○ **A** jammed so that it can no longer move
- ○ **B** taken away by force
- ○ **C** grabbed suddenly
- ○ **D** understood completely

5 Explain **why** engineers add a margin on top of the calculated movement. Use specific evidence from the text and say what it shows. C3.2 · TH

The one sentence that changes an open-response mark. Evidence, then **“which shows that…”** Quoting the right line and stopping scores 20 of 40. The same quote plus the connection scores 30 or 40.

Rubric. Open-response reading is scored B · I · 10 · 20 · 30 · 40. A restatement of the question scores **I** — the same code as a blank.

The Second Drawing

Narrative text · 10 selected-response + 1 open-response — read it twice. The second time, mark anything the writer shows you without saying it outright.

Priya had redrawn the roof four times and Mr. Oyelaran had said the same thing four times.

"It's competent."

He said it the way other people said *fine* — the word landing softly and doing enormous damage on the way down. Competent. Nothing wrong with it. Nothing in it either.

On the fifth afternoon she stopped drawing the roof and went to sit in the half-built pavilion instead. It was late October. The frame was up, the decking wasn't, and the whole thing smelled of sawdust and cold air. She had spent eleven weeks designing a shelter for this spot and had never once sat in it.

A woman came along the path with a dog and a folding chair, glanced at the frame, and set the chair down under the one corner that already had boards overhead. She read for forty minutes. When the wind picked up she moved the chair — not out of the pavilion, but two metres to the left, into the angle where two beams met.

Priya watched her do it and felt something go quiet in her chest.

Her drawings had put the seating in the centre. Symmetrical. Balanced. The kind of thing that photographs well and wins the school prize. But nobody sat in the centre of anything. People sat at edges, in corners, with their backs against something solid and a view out.

She went home and did not redraw the roof. She redrew the floor — pushed the benches out to the perimeter, opened the middle, and made the north-east corner deeper than the rest so it would hold a folding chair and a dog and forty minutes of quiet.

It took her until nearly midnight, and twice she nearly put the benches back. Symmetry was easier to defend. If someone asked her why the north-east corner was deeper than the other three, she would have to say *because a stranger with a dog sat there*, and that did not sound like engineering.

She left it deeper anyway.

Mr. Oyelaran looked at it for a long time. Long enough that Priya started composing the defence in her head — the wind angle, the sightlines, the fact that the roof already overhung that corner.

"What changed?"

"I sat in it," Priya said.

He nodded slowly, and did not say *competent*. He picked up a pencil, drew a small arrow at the north-east corner, and wrote one word beside it: *deeper*.

"Again," he said. "Another twenty centimetres. If you're going to be right, be right properly."

Before you turn the page. In one sentence: what is this *mostly* about? Write it in the margin. If you cannot, read it again.

Original text written for this book. Length matched to the EQAO Junior Framework specification.

THE READING ROOM · SHEET 44

The Second Drawing — questions

Narrative text · 10 selected-response + 1 open-response. Turn back to the text as often as you like — that is what a reader does.

1 Why does Priya find the word **competent** so discouraging? C3.2 · AP

- ○ **A** It means nothing is wrong with the work, but nothing is special about it either
- ○ **B** It means Mr. Oyelaran has not looked at the drawing properly
- ○ **C** It means the roof has a technical fault she cannot find
- ○ **D** It means she has run out of time to finish

2 What is the **turning point** of the story? C3.3 · AP

- ○ **A** Watching the woman choose a corner rather than the centre
- ○ **B** Mr. Oyelaran asking what changed
- ○ **C** Priya redrawing the roof for a fifth time
- ○ **D** The weather turning cold in late October

3 From whose **point of view** is the story told? C1.6 · AP

- ○ **A** third person, following Priya
- ○ **B** first person, Priya narrating
- ○ **C** first person, Mr. Oyelaran narrating
- ○ **D** second person, addressing the reader

4 "the word landing softly and doing enormous damage on the way down" — which **literary device** is this? C3.1 · AP

- ○ **A** metaphor — the word is described as if it were a falling object
- ○ **B** hyperbole — a deliberate exaggeration for effect
- ○ **C** idiom — a phrase whose meaning is not literal
- ○ **D** alliteration — repeated initial sounds

5 What does Priya's final answer, "I sat in it", tell the reader? C3.2 · AP

- ○ **A** She learned more from using the space than from redrawing it
- ○ **B** She was too tired to explain her reasoning fully
- ○ **C** She had given up on winning the school prize
- ○ **D** She wanted Mr. Oyelaran to visit the site himself

6 Which sentence best states a **theme** of the story? C3.6 · AP

- ○ **A** Designing for real people means watching what they actually do
- ○ **B** Hard work always wins in the end
- ○ **C** Teachers should give clearer feedback
- ○ **D** Symmetry is the most important quality in a design

7 Why does Priya nearly put the benches back? C3.2 · AP

- ○ **A** Symmetry would be easier to justify to someone who asked
- ○ **B** She ran out of paper before she could finish
- ○ **C** Mr. Oyelaran told her to change it back
- ○ **D** The deeper corner would cost too much to build

8 What does Mr. Oyelaran's final instruction show about his view of the new design? C3.2 · AP

- ○ **A** He agrees with it and wants her to commit to it further
- ○ **B** He thinks the corner should be removed entirely
- ○ **C** He is disappointed that she changed the drawing
- ○ **D** He wants her to go back to the symmetrical version

9 Which sentence shows Priya expected to have to **argue** for her choice? C3.3 · AP

- ○ **A** “Priya started composing the defence in her head”
- ○ **B** “She left it deeper anyway.”
- ○ **C** “It took her until nearly midnight”
- ○ **D** “He picked up a pencil”

10 How does the writer show the **passing of time** in this story? C1.3 · AP

- ○ **A** By marking the days — “the fifth afternoon”, “until nearly midnight”
- ○ **B** By using headings to divide the sections
- ○ **C** By numbering each of Priya's drawings
- ○ **D** By describing the weather in every paragraph

11 How do you know Priya's new design was better **for the people using it**? Give evidence from the story and explain what it shows. C3.2 · TH

The one sentence that changes an open-response mark. Evidence, then **“which shows that…”** Quoting the right line and stopping scores 20 of 40. The same quote plus the connection scores 30 or 40.

Rubric. Open-response reading is scored B · I · 10 · 20 · 30 · 40. A restatement of the question scores **I** — the same code as a blank.

THE READING ROOM · SHEET 45

Writing conventions

Twelve selected-response writing questions — the same number as the real assessment. Strand B2 and B3, plus D.

Grade 6 conventions add colons, semicolons, passive voice, gerunds and relative clauses. All five appear below.

1 Which sentence uses a **colon** correctly? B3.3 · KU

- **A** The brief listed three requirements: shade, seating and drainage.
- **B** The brief listed: shade, seating and drainage.
- **C** The brief: listed three requirements, shade, seating and drainage.
- **D** The brief listed three requirements, shade: seating and drainage.

2 Which sentence is written in the **passive voice**? B3.2 · KU

- **A** The pavilion was designed by a Grade 6 class.
- **B** A Grade 6 class designed the pavilion.
- **C** The Grade 6 class is designing the pavilion.
- **D** Design the pavilion carefully.

3 Which word in this sentence is a **gerund**? “Measuring carefully saved the team a week.” B3.2 · KU

- **A** Measuring
- **B** carefully
- **C** saved
- **D** week

4 Which sentence contains a **relative clause**? B3.1 · KU

- **A** The beam that cracked was replaced on Friday.
- **B** The beam cracked and was replaced on Friday.
- **C** On Friday, the cracked beam was replaced.
- **D** Replace the cracked beam on Friday.

5 Where does a **comma** belong? “However the budget had already been approved.” B3.3 · KU

- **A** after “However”
- **B** after “budget”
- **C** after “already”
- **D** no comma is needed

6 Which is the most **precise** replacement for the underlined word? “The old design was bad.” D2.3 · KU

- **A** impractical
- **B** not good
- **C** really bad
- **D** quite poor

7 Which sentence has a **subject-verb agreement** error? B3.2 · KU

- **A** The set of drawings were delivered late.
- **B** The set of drawings was delivered late.
- **C** The drawings were delivered late.
- **D** The drawing was delivered late.

8 Which sentence best **combines** these two? “The roof leaked. The joint had seized.” B3.1 · KU

- **A** The roof leaked because the joint had seized.
- **B** The roof leaked, the joint had seized.
- **C** The roof leaked and the joint had seized and it was a problem.
- **D** The roof leaked; however, the joint had seized.

9 Which sentence does **not** belong in a paragraph about drainage? D1.4 · KU

- ◯ **A** The class voted on a name for the pavilion.
- ◯ **B** Water must be able to leave the deck quickly.
- ◯ **C** A slope of two percent is usually enough.
- ◯ **D** Blocked gaps let water sit against the steel.

10 Which is the strongest **opening** for a proposal to the school council? D1.1 · KU

- ◯ **A** Our class is asking the council to approve a shaded seating area for the north field.
- ◯ **B** This is a proposal about something we want.
- ◯ **C** Hello, we hope you are having a good day.
- ◯ **D** There are many things a school could build.

11 Which sentence uses a **semicolon** correctly? B3.3 · KU

- ◯ **A** The frame was finished; the decking was not.
- ◯ **B** The frame was finished; and the decking was not.
- ◯ **C** The frame; was finished but the decking was not.
- ◯ **D** Although the frame was finished; the decking was not.

12 Which of these is an **opinion** presented as if it were a fact? C3.5 · KU

- ◯ **A** Everyone knows the centre is the best place for seating.
- ◯ **B** The survey received 84 replies.
- ◯ **C** Steel expands when it is heated.
- ◯ **D** The frame was completed in October.

The Conventions rubric is only three points, and the middle one is simply "errors do not interfere with communication". Fear of mistakes costs more Topic Development marks than the mistakes themselves cost Conventions marks.

THE READING ROOM · SHEET 46

The writing task

One open-response task, worth **7 of the 20 writing marks** — the highest-value single item in the whole language component.

> **It is scored twice: Topic Development out of 4, and Conventions out of 3. They are separate. Losing one does not lose the other.**

Pick one prompt. The real assessment could give you any of these three forms.

1. Persuasive

Your school council has money for **one** project: a shaded seating area, or new sports equipment. Write to the council arguing for the one you think matters more. State your position, give at least three reasons with your strongest last, and finish by saying what you want the council to do.

2. Informational

Write an explanation for younger students of **why engineers leave gaps in bridges**. Use what you learned from the informational text. Organise it with a clear beginning, a middle that explains the reason, and an ending that says why it matters.

3. Narrative

Write a story about someone who solves a problem only after they stop working on it and go and look at something for themselves. Plan three parts — the setup, the moment they notice something, and how it ends — and make sure you land the ending.

Plan three parts before you write a sentence

Topic Development — out of 4

40 clear focus, well developed, specific and relevant detail, logical and coherent order, thorough relationship to the task
30 clear focus, adequately developed, simple or mechanical order
20 minimally developed, weak links
10 not developed, random order

Conventions — out of 3

30 conventions used appropriately to communicate
20 errors do *not* interfere with communication
10 errors *do* interfere with communication

Read 20 again. You can misspell throughout and still reach 20, provided the meaning survives.

1 · Opening — what is this and what am I claiming?

2 · Middle — my reasons or events, strongest last

3 · Ending — this is the box people skip

Check before you stop: does the last sentence close the piece, or did the pen just run out? Organisation is a scored criterion, and a piece with no ending is disorganised by definition.

Write on separate paper. Aim for three developed paragraphs you can finish rather than five you cannot.

FULL PAPER · SHEET 47

Mathematics — Full Paper 1

44 questions in 4 stages of 11. Built to the EQAO Junior Division blueprint exactly.

Before you start

A **calculator is allowed**, and so is paper for rough work. Each stage is designed for about **30 minutes**, but there is no time limit here — the real assessment allows additional time for every student, and so does this.

On the real assessment, Stages 2 and 4 adapt to how you did in the stage before. This paper does not adapt, so some questions will feel harder than others. That is normal.

Strand	Questions here	Share of the real assessment
B · Number	14	32%
C · Algebra	9	20%
D · Data	8	18%
E · Spatial Sense	9	20%
F · Financial Literacy	4	9%
Total	**44**	**100%**

Name

Date started

How to use the result. Do not score this out of 44 and call it a level — one paper cannot do that. Instead, mark each question against its **expectation code** in the key, and look for codes you missed twice. Those are the sheets to go back to.

Every question original. Blueprint proportions, question counts and categories match the published Framework; the questions themselves were written for this book.

FULL PAPER 1 · STAGE 1 · SHEET 48

Paper 1 — Stage 1

Questions 1 to 11. Complete the stage in one sitting.

1 Three patterns:
P starts at 2, rule **add 6**
Q starts at 82, rule **subtract 10**
R starts at 2, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 72
- **B** 4
- **C** 32
- **D** 38

2 The Commission budget is written as **579,989**. Which is the value of the digit in the **ten thousands** place? B1.1 · KU

- **A** 500,000
- **B** 9,000
- **C** 7
- **D** 70,000

3 Round **6.101** to the nearest **whole number**. B1.5 · KU

- **A** 6
- **B** 6.1
- **C** 6.11
- **D** 7

4 **22** litres of sealant is poured into cans holding **0.5 L** each. How many cans? B2.8 · AP

- **A** 44
- **B** 4.4
- **C** 11
- **D** 21.5

5 A **24 m** length of trim is cut into pieces each **2/3 m** long. How many pieces? B2.10 · TH

- **A** 36
- **B** 21
- **C** 72
- **D** 16

6 Which number lies between **6.027** and **6.127**? B1.4 · KU

- **A** 6.157
- **B** 6.007
- **C** 6.077
- **D** 5.927

7 The **acute** angle between Line A and Line B is **72°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 108°
- **B** 18°
- **C** 252°
- **D** 288°

8 Convert **2500 cm** to **m**. E2.1 · AP

- **A** 250000 m
- **B** 250 m
- **C** 25 m
- **D** 2.5 m

9 A rectangle of decking measures **18 cm by 10 cm**. A rectangular notch measuring **6 cm by 4 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 156 cm^2
- **B** 204 cm^2
- **C** 180 cm^2
- **D** 170 cm^2

10 This code should display **"Correct"** when a whole number is divisible by **6**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- ◯ **A** has a last digit of 0 or 5
- ◯ **B** is divisible by both 2 and 5
- ◯ **C** has an even last digit
- ◯ **D** is divisible by both 2 and 3

11 A point moves from **(6, 3)** to **(6, 9)**. Describe the translation. E1.3 · AP

- ◯ **A** 258
- ◯ **B** 6 right
- ◯ **C** 6 dow
- ◯ **D** 6 up

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

Paper 1 — Stage 2

Questions 12 to 22. Complete the stage in one sitting.

12 Which shape has **exactly 1** line of symmetry? E1.1 · KU

- **A** kite
- **B** rhombus
- **C** square
- **D** trapezoid

13 Which word means **giving something now on the understanding it comes back later**? F1.5 · KU

- **A** borrowing
- **B** donating
- **C** trading
- **D** lending

14 Simplify **8x + 6x**. C2.1 · KU

- **A** 14x
- **B** $14x^2$
- **C** 8x6
- **D** 48x

15 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- **A** 21
- **B** 55
- **C** 49
- **D** 29
- **E** 17

16 Two independent events: a fair spinner with **2** equal sections, and a fair 6-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 1/8
- **B** 2/12
- **C** 1/12
- **D** 2/6

17 The studio borrows **$1000** at **2%** simple interest for one year. How much interest is owed after one year? F1.4 · AP

- **A** $20
- **B** $2000
- **C** $2
- **D** $1020

18 Evaluate **4x + 7** when **x = 1.5**. C2.2 · AP

- **A** -1
- **B** 13
- **C** 34
- **D** 12.5

19 Is **the mass of a bag of gravel** discrete or continuous data? D1.1 · KU

- **A** neither
- **B** qualitative
- **C** continuous
- **D** discrete

20 A spinner has **10** equal sections. **3** of them are green. What is the probability of landing on green, as a **percent**? D2.1 · AP

- **A** 7%
- **B** 3%
- **C** 15%
- **D** 30%

21 Is **the number of planters built** discrete or continuous data? D1.1 · KU

- **A** qualitative
- **B** discrete
- **C** continuous
- **D** neither

22 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 13 · 19 · 25 · 49
What is the **term number** when the term value is 49? C1.3 · AP

- **A** 49
- **B** 15
- **C** 17
- **D** 34

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

FULL PAPER 1 · STAGE 3 · SHEET 50

Paper 1 — Stage 3

Questions 23 to 33. Complete the stage in one sitting.

23 **Setting up an automatic transfer on payday** — what is this? F1.2 · KU

- **A** a saving goal
- **B** an earning goal
- **C** a step that helps reach a goal
- **D** a factor that interferes with a goal

24 Two lengths of cedar measure **44.01 m** and **3.60 m**. What is the difference? B2.4 · AP

- **A** 47.61
- **B** 40.51
- **C** 404.10
- **D** 40.41

25 In which equation does **p** have the **greatest** value?

A 91 − p = 37
B 5p = 235
C 71 − p = 30
D 3p = 159 C2.3 · TH

- **A** 3p = 159
- **B** 71 − p = 30
- **C** 91 − p = 37
- **D** 5p = 235

26 Which method of payment **moves money between accounts electronically, usually with a fee or a limit?** F1.1 · KU

- **A** debit card
- **B** e-transfer
- **C** credit card
- **D** cash

27 Select the option that is **NOT** equal to **2 hundredths.** B1.6 · AP

- **A** 0.02
- **B** 2.00
- **C** 2/100
- **D** 0.2

28 Order these from **least to greatest: 1.5 · 3/4 · 0.75 · 2** B1.3 · AP

- **A** 3/4, 0.75, 1.5, 2
- **B** 0.75, 1.5, 2, 3/4
- **C** 2, 1.5, 0.75, 3/4
- **D** 89

29 Which number is divisible by **3**? B2.2 · KU

- **A** 204
- **B** 206
- **C** 205
- **D** 463

30 A pattern begins **3, 5, 7, 9, …** Which describes it? C1.1 · KU

- **A** non-linear growing — the jump gets bigger each time
- **B** linear growing — it goes up by the same amount each time
- **C** repeating — the same block comes round again
- **D** shrinking — it goes down each time

31 A batch of **400** tiles arrives. **5%** of them are cracked. How many are cracked? B2.3 · AP

- **A** 200.0
- **B** 20
- **C** 5
- **D** 40.0

32 Heights in centimetres: **19, 27, 31, 32, 36**
What is the **median**? D1.5 · TH

- **A** 29
- **B** 36
- **C** 17
- **D** 31

33 A run of decking is **666 cm** long. The plan calls for **0.5** times that length in total. How long is that? B2.7 · AP

- **A** 666.5 cm
- **B** 3330 cm
- **C** 333 cm
- **D** 33.3 cm

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

FULL PAPER 1 · STAGE 4 · SHEET 51

Paper 1 — Stage 4

Questions 34 to 44. Complete the stage in one sitting.

34 Which graph best represents **what fraction of the total budget went to each of four trades**? D1.3 · KU

- **A** bar graph
- **B** circle graph
- **C** broken-line graph
- **D** histogram

35 Which statement describes the **diagonals** of a **rhombus**? E1.1 · KU

- **A** equal and bisect each other, not perpendicular
- **B** perpendicular and bisect each other, not equal
- **C** bisect each other only
- **D** equal, perpendicular, bisect each other

36 Two lines cross. One angle is **20°**. What is the angle **opposite** it? E2.3 · KU

- **A** 70°
- **B** 340°
- **C** 160°
- **D** 20°

37 A rotation of **90° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 270° clockwise
- **B** 90° counterclockwise
- **C** 270° counterclockwise
- **D** 142

38 Solve for x: **9x + 3 = 84** C2.3 · AP

- **A** 75
- **B** 12
- **C** 9
- **D** 81

39 On a vertical number line, the basement floor is at **-18** and the roof deck is at **8**. How many units apart are they? B1.2 · AP

- **A** 10
- **B** -10
- **C** 28
- **D** 26

40 Work out **2/3 + 1/8**. B2.5 · AP

- **A** 1/12
- **B** 3/11
- **C** 13/24
- **D** 19/24

41 Solve the inequality **6x + 2 < 80**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 14
- **B** 468
- **C** 78
- **D** 12

42 Which 3-D object gives **a rectangle from the top and front, a square from the side**? E1.2 · AP

- **A** a cube
- **B** a square pyramid
- **C** a cylinder
- **D** a rectangular prism

43 Which graph best represents **the mass of every sapling, grouped into the intervals 0–1 kg, 1–2 kg, 2–3 kg**? D1.3 · KU

- **A** bar graph
- **B** histogram
- **C** broken-line graph
- **D** circle graph

44 A rival proposal shows a graph where **the intervals on the horizontal axis are not equal widths**. Why is this misleading? D1.6 · TH

- **A** Extra dimensions make some bars look bigger than their value.
- **B** Choosing which data to leave out can reverse the apparent trend.
- **C** Unequal intervals distort the shape of the data.
- **D** It exaggerates small differences — the bars look many times taller than each other.

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

FULL PAPER · SHEET 52

Mathematics — Full Paper 2

44 questions in 4 stages of 11. Built to the EQAO Junior Division blueprint exactly.

Before you start

A **calculator is allowed**, and so is paper for rough work. Each stage is designed for about **30 minutes**, but there is no time limit here — the real assessment allows additional time for every student, and so does this.

On the real assessment, Stages 2 and 4 adapt to how you did in the stage before. This paper does not adapt, so some questions will feel harder than others. That is normal.

Strand	Questions here	Share of the real assessment
B · Number	14	32%
C · Algebra	9	20%
D · Data	8	18%
E · Spatial Sense	9	20%
F · Financial Literacy	4	9%
Total	**44**	**100%**

Name

Date started

How to use the result. Do not score this out of 44 and call it a level — one paper cannot do that. Instead, mark each question against its **expectation code** in the key, and look for codes you missed twice. Those are the sheets to go back to.

Every question original. Blueprint proportions, question counts and categories match the published Framework; the questions themselves were written for this book.

FULL PAPER 2 · STAGE 1 · SHEET 53

Paper 2 — Stage 1

Questions 1 to 11. Complete the stage in one sitting.

1 Which word means **taking something now with a promise to return or repay it?** F1.5 · KU

- **A** trading
- **B** donating
- **C** borrowing
- **D** lending

2 Work out **1/2 − 1/10**. B2.5 · AP

- **A** 3/5
- **B** 2/5
- **C** 1/20
- **D** 3/14

3 Which number lies between **4.100** and **4.200**? B1.4 · KU

- **A** 4.080
- **B** 4.150
- **C** 4.230
- **D** 4.000

4 Three patterns:
P starts at 2, rule **add 6**
Q starts at 52, rule **subtract 10**
R starts at 2, rule **multiply by 2**
Which number appears in **all three** patterns? C1.3 · TH

- **A** 38
- **B** 4
- **C** 42
- **D** 32

5 **7** litres of sealant is poured into cans holding **0.2 L** each. How many cans? B2.8 · AP

- **A** 3.5
- **B** 1.4
- **C** 6.8
- **D** 35

6 Round **30.911** to the nearest **hundredth**. B1.5 · KU

- **A** 30.91
- **B** 31
- **C** 30.9
- **D** 30.92

7 Heights in centimetres: **10, 13, 18, 29, 37, 46, 57**
What is the **range**? D1.5 · TH

- **A** 47
- **B** 29
- **C** 30
- **D** 57

8 A rotation of **270° clockwise** about a point has the same result as which rotation? E1.4 · AP

- **A** 270° counterclockwise
- **B** 90° counterclockwise
- **C** 90° clockwise
- **D** 542

9 A rival proposal shows a graph where **the intervals on the horizontal axis are not equal widths**. Why is this misleading? D1.6 · TH

- **A** Choosing which data to leave out can reverse the apparent trend.
- **B** It exaggerates small differences — the bars look many times taller than each other.
- **C** Extra dimensions make some bars look bigger than their value.
- **D** Unequal intervals distort the shape of the data.

10 A **12 m** length of trim is cut into pieces each **3/4 m** long. How many pieces? B2.10 · TH

- **A** 48
- **B** 9
- **C** 8
- **D** 16

11 A point moves from **(4, 4)** to **(7, 3)**. Describe the translation. E1.3 · AP

- **A** 1 left and 3 up
- **B** 3 left and 1 up
- **C** 4 right
- **D** 3 right and 1 down

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

FULL PAPER 2 · STAGE 2 · SHEET 54

Paper 2 — Stage 2

Questions 12 to 22. Complete the stage in one sitting.

12 Two lengths of cedar measure **12.74 m** and **8.14 m**. What is the total length? B2.4 · AP

- ○ **A** 20.88
- ○ **B** 208.80
- ○ **C** 20.98
- ○ **D** 4.60

13 **Saving 20% of every payment towards a new laptop** — what is this? F1.2 · KU

- ○ **A** a factor that interferes with a goal
- ○ **B** a step that helps reach a goal
- ○ **C** a saving goal
- ○ **D** an earning goal

14 Which 3-D object gives **a circle from the top, a rectangle from the front and side**? E1.2 · AP

- ○ **A** a cylinder
- ○ **B** a square pyramid
- ○ **C** a rectangular prism
- ○ **D** a cube

15 Solve for x: **4x + 12 = 60** C2.3 · AP

- ○ **A** 12
- ○ **B** 56
- ○ **C** 48
- ○ **D** 24

16 A batch of **200** tiles arrives. **50%** of them are cracked. How many are cracked? B2.3 · AP

- ○ **A** 100
- ○ **B** 200.0
- ○ **C** 50
- ○ **D** 10

17 This code should display "**Correct**" when a whole number is divisible by **8**.

```
input number
if number ______
  then display "Correct"
end
```

Which condition completes it? C3.1 · AP

- ○ **A** has a last digit of 0 or 5
- ○ **B** has its last three digits divisible by 8
- ○ **C** is divisible by both 2 and 5
- ○ **D** has an even last digit

18 Simplify **3x + 9x**. C2.1 · KU

- ○ **A** 27x
- ○ **B** 3x9
- ○ **C** $12x^2$
- ○ **D** 12x

19 A spinner has **20** equal sections. **4** of them are green. What is the probability of landing on green, as a **percent**? D2.1 · AP

- ○ **A** 20%
- ○ **B** 10%
- ○ **C** 4%
- ○ **D** 16%

20 Select the **TWO** prime numbers. B2.6 · KU

Select **all** that apply.

- ☐ **A** 21
- ☐ **B** 37
- ☐ **C** 23
- ☐ **D** 55
- ☐ **E** 33

21 Evaluate **9x + 9** when **x = 8.2**. C2.2 · AP

- **A** 82.8
- **B** 154.8
- **C** 64.8
- **D** 26.2

22 Solve the inequality **2x + 12 < 38**. What is the **greatest whole number** value of x? C2.4 · AP

- **A** 52
- **B** 12
- **C** 26
- **D** 14

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

Paper 2 — Stage 3

Questions 23 to 33. Complete the stage in one sitting.

23 Four term values of a growing pattern are shown.
Term number: 3 · 5 · 7 · ?
Term value: 7 · 11 · 15 · 31
What is the **term number** when the term value is 31? C1.3 · AP

- **A** 31
- **B** 16
- **C** 15
- **D** 17

24 Which graph best represents **visitor numbers grouped into the intervals 0-9, 10-19, 20-29 and 30-39 years of age**? D1.3 · KU

- **A** broken-line graph
- **B** bar graph
- **C** circle graph
- **D** histogram

25 Is **the number of planters built** discrete or continuous data? D1.1 · KU

- **A** qualitative
- **B** continuous
- **C** neither
- **D** discrete

26 The Commission budget is written as **580,086**. Which is the value of the digit in the **ten thousands** place? B1.1 · KU

- **A** 80,000
- **B** 500,000
- **C** 8
- **D** 0

27 Which statement describes a **e-transfer**? F1.1 · KU

- **A** cannot be traced or reversed if it is lost
- **B** takes the money straight from your own bank account
- **C** moves money between accounts electronically, usually with a fee or a limit
- **D** often charges a high interest rate on any unpaid balance

28 The studio borrows **$500** at **2%** simple interest for one year. How much interest is owed after one year? F1.4 · AP

- **A** $1000
- **B** $510
- **C** $10
- **D** $2

29 Which number is divisible by **9**? B2.2 · KU

- **A** 810
- **B** 811
- **C** 818
- **D** 814

30 Two independent events: a fair spinner with **2** equal sections, and a fair 3-sided die. What is the theoretical probability of getting a **specific** result on both? D2.2 · TH

- **A** 1/6
- **B** 2/3
- **C** 1/5
- **D** 2/6

31 In which equation does **p** have the **greatest** value?

A $5p = 185$
B $74 + p = 122$
C $72 - p = 31$
D $61 + p = 112$ C2.3 · TH

- **A** $72 - p = 31$
- **B** $61 + p = 112$
- **C** $74 + p = 122$
- **D** $5p = 185$

32 Select the option that is **NOT** equal to **8 thousandths**. B1.6 · AP

- **A** 8/1000
- **B** 8.000
- **C** 0.008
- **D** 0.8

33 Is **the number of planters built** discrete or continuous data? D1.1 · KU

- **A** neither
- **B** discrete
- **C** qualitative
- **D** continuous

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

Paper 2 — Stage 4

Questions 34 to 44. Complete the stage in one sitting.

34 Which graph best represents **what fraction of the total budget went to each of four trades**? D1.3 · KU

- **A** histogram
- **B** broken-line graph
- **C** circle graph
- **D** bar graph

35 On a vertical number line, the basement floor is at **-17** and the roof deck is at **15**. How many units apart are they? B1.2 · AP

- **A** -2
- **B** 2
- **C** 32
- **D** 34

36 The **acute** angle between Line A and Line B is **72°**. What is the angle measuring **counterclockwise** from Line A to Line B? E2.2 · AP

- **A** 108°
- **B** 18°
- **C** 288°
- **D** 252°

37 A pattern begins **11, 13, 15, 17, …** Which describes it? C1.1 · KU

- **A** shrinking — it goes down each time
- **B** repeating — the same block comes round again
- **C** non-linear growing — the jump gets bigger each time
- **D** linear growing — it goes up by the same amount each time

38 Two angles are **supplementary**. One is **23°**. What is the other? E2.3 · KU

- **A** 23°
- **B** 157°
- **C** 337°
- **D** 67°

39 A rectangle of decking measures **16 cm by 11 cm**. A rectangular notch measuring **4 cm by 8 cm** is cut out of one corner. What is the remaining area? E2.4 · TH

- **A** 208 cm²
- **B** 144 cm²
- **C** 164 cm²
- **D** 176 cm²

40 A run of decking is **671 cm** long. The plan calls for **4.0** times that length in total. How long is that? B2.7 · AP

- **A** 675 cm
- **B** 26840 cm
- **C** 2684 cm
- **D** 268.4 cm

41 Convert **4800 mL** to **L**. E2.1 · AP

- **A** 4.8 L
- **B** 4.8e+06 L
- **C** 0.48 L
- **D** 48 L

42 Order these from **least to greatest: −1 · 0.2 · 3/4 · 2** B1.3 · AP

- **A** 2, 3/4, 0.2, −1
- **B** 0.2, 3/4, −1, 2
- **C** 0.2, 2, 3/4, −1
- **D** −1, 0.2, 3/4, 2

43 Which statement describes the **diagonals** of a **parallelogram**? E1.1 · KU

- **A** equal, perpendicular, bisect each other
- **B** perpendicular and bisect each other, not equal
- **C** equal and bisect each other, not perpendicular
- **D** bisect each other only

44 Which shape has **exactly 4** lines of symmetry? E1.1 · KU

- **A** kite
- **B** rectangle
- **C** trapezoid
- **D** square

Finished the stage? Go back and check before you move on. On the real assessment you can change any answer until you submit the stage — after that it closes.

FULL PAPER · SHEET 57

Language — Full Paper

29 questions across 4 sessions, matching the EQAO Junior Division blueprint.

How the real thing is built

Component	Selected-response	Open-response	Raw marks
Reading — narrative text	10	1	27 (70% / 30%)
Reading — informational text, 300–350 words	4	1	
Writing	12	1	20 (65% / 35%)

Unlike mathematics, the language component is **linear** — nothing adapts. Every student on a given form answers the same questions.

Use the texts on Sheets 41 and 43 for the reading sections. Read each one again before you answer — you are allowed to, and it is what a reader does.

Name

Rough notes are allowed on screen in the junior language component — that is a Grade 6 feature that Grade 3 does not have. Practise using them.

Marking the open responses. Reading uses the 4-point scale (B/I/10/20/30/40); writing is marked twice, on Topic Development out of 4 and Conventions out of 3. Both rubrics are on Sheet 46.

LANGUAGE PAPER · SHEET 58

Language Paper — Sessions A and B

Reading. Turn back to **The Second Drawing** (Sheet 43) and **The Bridge That Breathes** (Sheet 41).

Narrative text — 10 selected-response, 1 open-response

1 Why does Priya find the word **competent** so discouraging? C3.2 · AP

- **A** It means nothing is wrong with the work, but nothing is special about it either
- **B** It means Mr. Oyelaran has not looked at the drawing properly
- **C** It means the roof has a technical fault she cannot find
- **D** It means she has run out of time to finish

2 What is the **turning point** of the story? C3.3 · AP

- **A** Watching the woman choose a corner rather than the centre
- **B** Mr. Oyelaran asking what changed
- **C** Priya redrawing the roof for a fifth time
- **D** The weather turning cold in late October

3 From whose **point of view** is the story told? C1.6 · AP

- **A** third person, following Priya
- **B** first person, Priya narrating
- **C** first person, Mr. Oyelaran narrating
- **D** second person, addressing the reader

4 “the word landing softly and doing enormous damage on the way down” — which **literary device** is this? C3.1 · AP

- **A** metaphor — the word is described as if it were a falling object
- **B** hyperbole — a deliberate exaggeration for effect
- **C** idiom — a phrase whose meaning is not literal
- **D** alliteration — repeated initial sounds

5 What does Priya's final answer, “I sat in it”, tell the reader? C3.2 · AP

- **A** She learned more from using the space than from redrawing it
- **B** She was too tired to explain her reasoning fully
- **C** She had given up on winning the school prize
- **D** She wanted Mr. Oyelaran to visit the site himself

6 Which sentence best states a **theme** of the story? C3.6 · AP

- **A** Designing for real people means watching what they actually do
- **B** Hard work always wins in the end
- **C** Teachers should give clearer feedback
- **D** Symmetry is the most important quality in a design

7 Why does Priya nearly put the benches back? C3.2 · AP

- **A** Symmetry would be easier to justify to someone who asked
- **B** She ran out of paper before she could finish
- **C** Mr. Oyelaran told her to change it back
- **D** The deeper corner would cost too much to build

8 What does Mr. Oyelaran's final instruction show about his view of the new design? C3.2 · AP

- **A** He agrees with it and wants her to commit to it further
- **B** He thinks the corner should be removed entirely
- **C** He is disappointed that she changed the drawing
- **D** He wants her to go back to the symmetrical version

9 Which sentence shows Priya expected to have to **argue** for her choice? C3.3 · AP

- ◯ **A** “Priya started composing the defence in her head”
- ◯ **B** “She left it deeper anyway.”
- ◯ **C** “It took her until nearly midnight”
- ◯ **D** “He picked up a pencil”

10 How does the writer show the **passing of time** in this story? C1.3 · AP

- ◯ **A** By marking the days — “the fifth afternoon”, “until nearly midnight”
- ◯ **B** By using headings to divide the sections
- ◯ **C** By numbering each of Priya's drawings
- ◯ **D** By describing the weather in every paragraph

11 How do you know Priya's new design was better **for the people using it**? Give evidence from the story and explain what it shows. C3.2 · TH

Session A and B on the real assessment are 35 minutes each. Take as long as you need here.

Language Paper — Session C

Reading, informational text. Turn back to **The Bridge That Breathes** (Sheet 41).

12 What is this text **mostly** about? C2.6 · AP

- ○ **A** Why bridges are built with deliberate gaps, and what goes wrong when the gaps are the wrong size
- ○ **B** How steel is manufactured for use in large structures
- ○ **C** The history of bridge building over the last century
- ○ **D** Why road salt damages vehicles in winter

13 Which **text feature** helps a reader find the section about faults? C1.3 · AP

- ○ **A** the subheading “What happens when the gap is wrong”
- ○ **B** the number 12 millionths
- ○ **C** the word “corrosion”
- ○ **D** the length of the paragraphs

14 The text says corrosion “does slowly what heat would have done quickly.” This is an example of… C3.1 · AP

- ○ **A** a comparison that contrasts two rates of damage
- ○ **B** a statistic used as evidence
- ○ **C** a direct quotation from an engineer
- ○ **D** a definition of a technical term

15 What does **seized** mean in “a joint that has seized solid”? B2.2 · AP

- ○ **A** jammed so that it can no longer move
- ○ **B** taken away by force
- ○ **C** grabbed suddenly
- ○ **D** understood completely

16 Explain **why** engineers add a margin on top of the calculated movement. Use specific evidence from the text and say what it shows. C3.2 · TH

Writing — conventions

17 Which sentence uses a **colon** correctly? B3.3 · KU

- ○ **A** The brief listed three requirements: shade, seating and drainage.
- ○ **B** The brief listed: shade, seating and drainage.
- ○ **C** The brief: listed three requirements, shade, seating and drainage.
- ○ **D** The brief listed three requirements, shade: seating and drainage.

18 Which sentence is written in the **passive voice**? B3.2 · KU

- ○ **A** The pavilion was designed by a Grade 6 class.
- ○ **B** A Grade 6 class designed the pavilion.
- ○ **C** The Grade 6 class is designing the pavilion.
- ○ **D** Design the pavilion carefully.

19 Which word in this sentence is a **gerund**? “Measuring carefully saved the team a week.” B3.2 · KU

- **A** Measuring
- **B** carefully
- **C** saved
- **D** week

20 Which sentence contains a **relative clause**? B3.1 · KU

- **A** The beam that cracked was replaced on Friday.
- **B** The beam cracked and was replaced on Friday.
- **C** On Friday, the cracked beam was replaced.
- **D** Replace the cracked beam on Friday.

21 Where does a **comma** belong? “However the budget had already been approved.” B3.3 · KU

- **A** after “However”
- **B** after “budget”
- **C** after “already”
- **D** no comma is needed

22 Which is the most **precise** replacement for the underlined word? “The old design was bad.” D2.3 · KU

- **A** impractical
- **B** not good
- **C** really bad
- **D** quite poor

Language Paper — Session D

Writing. Six more conventions questions, then the open-response task.

23 Which sentence has a **subject-verb agreement** error? B3.2 · KU

- **A** The set of drawings were delivered late.
- **B** The set of drawings was delivered late.
- **C** The drawings were delivered late.
- **D** The drawing was delivered late.

24 Which sentence best **combines** these two? “The roof leaked. The joint had seized.” B3.1 · KU

- **A** The roof leaked because the joint had seized.
- **B** The roof leaked, the joint had seized.
- **C** The roof leaked and the joint had seized and it was a problem.
- **D** The roof leaked; however, the joint had seized.

25 Which sentence does **not** belong in a paragraph about drainage? D1.4 · KU

- **A** The class voted on a name for the pavilion.
- **B** Water must be able to leave the deck quickly.
- **C** A slope of two percent is usually enough.
- **D** Blocked gaps let water sit against the steel.

26 Which is the strongest **opening** for a proposal to the school council? D1.1 · KU

- **A** Our class is asking the council to approve a shaded seating area for the north field.
- **B** This is a proposal about something we want.
- **C** Hello, we hope you are having a good day.
- **D** There are many things a school could build.

27 Which sentence uses a **semicolon** correctly? B3.3 · KU

- **A** The frame was finished; the decking was not.
- **B** The frame was finished; and the decking was not.
- **C** The frame; was finished but the decking was not.
- **D** Although the frame was finished; the decking was not.

28 Which of these is an **opinion** presented as if it were a fact? C3.5 · KU

- **A** Everyone knows the centre is the best place for seating.
- **B** The survey received 84 replies.
- **C** Steel expands when it is heated.
- **D** The frame was completed in October.

Question 29 — the writing task

Your school council has money for **one** project: a shaded seating area, or new sports equipment. Write to the council arguing for the one you think matters more. State your position, give at least three reasons with your strongest last, and finish by saying what you want the council to do.

Worth 7 of the 20 writing marks. Plan three parts, land the ending, and write the interesting word even if you are unsure of the spelling.

60

Answers

For checking your own work after you finish. Each answer carries the reason and the expectation code — the code is the useful part, because it tells you which sheet to go back to.

Sheet 3

1 D — 50,000 [B1.1] · Ten thousands is the fifth digit from the right.
2 C — 60,000 [B1.1] · Ten thousands is the fifth digit from the right.
3 A — 0 [B1.1] · Ten thousands is the fifth digit from the right.
4 B — 80,000 [B1.1] · Ten thousands is the fifth digit from the right.
5 B — 40,000 [B1.1] · Ten thousands is the fifth digit from the right.
6 B — 20,000 [B1.1] · Ten thousands is the fifth digit from the right.
7 D — 80,000 [B1.1] · Ten thousands is the fifth digit from the right.
8 B — 50,000 [B1.1] · Ten thousands is the fifth digit from the right.
9 B — 60,000 [B1.1] · Ten thousands is the fifth digit from the right.
10 D — 90,000 [B1.1] · Ten thousands is the fifth digit from the right.
11 D — 60,000 [B1.1] · Ten thousands is the fifth digit from the right.
12 B — 80,000 [B1.1] · Ten thousands is the fifth digit from the right.

Sheet 4

1 B — 24 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
2 B — 22 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
3 D — 29 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
4 A — 16 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
5 C — 24 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
6 C — 18 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
7 A — 21 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
8 A — 27 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
9 B — 28 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
10 D — 5 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
11 C — 24 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.
12 D — 22 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.

Sheet 5

1 D — −3, −1, −1/2, 0.75 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
2 B — −3, −1, 1.5, 2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
3 A — −1, −1/2, 3/4, 0.75 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
4 B — −3, 0.2, 1/4, 1/2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
5 A — −1/2, 3/4, 0.75, 2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
6 B — −1/2, 0.2, 0.75, 1.5 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
7 A — −3, −1, 0.2, 1/2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
8 A — 1/2, 0.75, 1.5, 2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
9 B — −1/2, 0.2, 1/2, 3/4 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
10 B — −3, −1, −1/2, 0.75 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
11 B — 0.75, 3/4, 1.5, 2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.
12 A — −3, −1/2, 1/4, 1.5 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 6

1 D — 7.601 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
2 D — 1.592 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
3 B — 7.529 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
4 D — 1.266 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
5 A — 3.024 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
6 B — 8.614 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
7 D — 1.509 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
8 B — 6.464 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
9 D — 8.638 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
10 D — 7.667 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
11 A — 5.107 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.
12 B — 5.964 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.

Sheet 7

1 C — 73.16 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
2 D — 3.01 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
3 A — 51.84 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
4 C — 91 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
5 B — 3.5 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
6 A — 30.1 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
7 D — 92 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
8 A — 52 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
9 A — 76.10 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
10 C — 24 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
11 C — 42.02 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.
12 A — 63 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.

Sheet 8

1 C — 0.8 [B1.6] · 8 hundredths written as a decimal is 0.08. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
2 A — 0.3 [B1.6] · 3 thousandths written as a decimal is 0.003. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
3 B — 0.6 [B1.6] · 6 thousandths written as a decimal is 0.006. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
4 C — 0.1 [B1.6] · 1 thousandths written as a decimal is 0.001. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
5 D — 0.2 [B1.6] · 2 hundredths written as a decimal is 0.02. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
6 D — 0.04 [B1.6] · 4 tenths written as a decimal is 0.4. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
7 C — 0.2 [B1.6] · 2 hundredths written as a decimal is 0.02. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
8 C — 0.7 [B1.6] · 7 thousandths written as a decimal is 0.007. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
9 A — 0.7 [B1.6] · 7 hundredths written as a decimal is 0.07. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
10 B — 0.3 [B1.6] · 3 hundredths written as a decimal is 0.03. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
11 A — 0.5 [B1.6] · 5 hundredths written as a decimal is 0.05. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.
12 D — 0.07 [B1.6] · 7 tenths written as a decimal is 0.7. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 9

1 A — 342 [B2.2] · Divisible by 9 when the digit sum is divisible by 9.
2 A — 510 [B2.2] · Divisible by 2 when the last digit is even.
3 B — 552 [B2.2] · Divisible by 6 when it is divisible by both 2 and 3.
4 A — 575 [B2.2] · Divisible by 5 when the last digit is 0 or 5.
5 C — 208 [B2.2] · Divisible by 8 when the last three digits are divisible by 8.
6 C — 576 [B2.2] · Divisible by 6 when it is divisible by both 2 and 3.
7 C — 906 [B2.2] · Divisible by 6 when it is divisible by both 2 and 3.
8 A — 480 [B2.2] · Divisible by 5 when the last digit is 0 or 5.
9 C — 200 [B2.2] · Divisible by 5 when the last digit is 0 or 5.
10 A — 548 [B2.2] · Divisible by 4 when the last two digits form a number divisible by 4.
11 D — 426 [B2.2] · Divisible by 6 when it is divisible by both 2 and 3.
12 B — 480 [B2.2] · Divisible by 8 when the last three digits are divisible by 8.

Sheet 10

1 A and B — 43, 23 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
2 D and E — 47, 31 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
3 A and C — 13, 19 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
4 A and D — 11, 29 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
5 B and E — 13, 11 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
6 B and D — 11, 37 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
7 B and E — 37, 23 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
8 B and D — 37, 17 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
9 B and C — 17, 19 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
10 D and E — 17, 11 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
11 A and D — 47, 29 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.
12 C and E — 13, 17 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.

Sheet 11

1 D — 40 [B2.3] · 5% of 800: find 10% first (80), then adjust.
2 C — 8 [B2.3] · 1% of 800: find 10% first (80), then adjust.
3 B — 100 [B2.3] · 25% of 400: find 10% first (40), then adjust.
4 A — 20 [B2.3] · 5% of 400: find 10% first (40), then adjust.
5 D — 18 [B2.3] · 15% of 120: find 10% first (12), then adjust.
6 C — 10 [B2.3] · 5% of 200: find 10% first (20), then adjust.
7 B — 80 [B2.3] · 50% of 160: find 10% first (16), then adjust.
8 D — 200 [B2.3] · 50% of 400: find 10% first (40), then adjust.
9 B — 15 [B2.3] · 5% of 300: find 10% first (30), then adjust.
10 A — 30 [B2.3] · 10% of 300: find 10% first (30), then adjust.
11 C — 6 [B2.3] · 1% of 600: find 10% first (60), then adjust.
12 A — 12 [B2.3] · 10% of 120: find 10% first (12), then adjust.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 12

1 B — 80.45 [B2.4] · Line up the decimal points, not the last digits.
2 B — 69.36 [B2.4] · Line up the decimal points, not the last digits.
3 B — 80.49 [B2.4] · Line up the decimal points, not the last digits.
4 B — 31.58 [B2.4] · Line up the decimal points, not the last digits.
5 D — 65.20 [B2.4] · Line up the decimal points, not the last digits.
6 B — 10.78 [B2.4] · Line up the decimal points, not the last digits.
7 D — 58.20 [B2.4] · Line up the decimal points, not the last digits.
8 A — 70.12 [B2.4] · Line up the decimal points, not the last digits.
9 B — 68.44 [B2.4] · Line up the decimal points, not the last digits.
10 A — 38.37 [B2.4] · Line up the decimal points, not the last digits.
11 B — 98.13 [B2.4] · Line up the decimal points, not the last digits.
12 C — 93.33 [B2.4] · Line up the decimal points, not the last digits.

Sheet 13

1 C — 7/8 [B2.5] · Find a common denominator first — 8 and 2 both go into 8. Never add the denominators.
2 D — 1/30 [B2.5] · Find a common denominator first — 3 and 10 both go into 30. Never add the denominators.
3 B — 4/3 [B2.5] · Find a common denominator first — 2 and 6 both go into 6. Never add the denominators.
4 C — 3/2 [B2.5] · Find a common denominator first — 10 and 5 both go into 10. Never add the denominators.
5 C — -21/40 [B2.5] · Find a common denominator first — 10 and 8 both go into 40. Never add the denominators.
6 B — 9/10 [B2.5] · Find a common denominator first — 10 and 5 both go into 10. Never add the denominators.
7 D — 1/2 [B2.5] · Find a common denominator first — 12 and 4 both go into 12. Never add the denominators.
8 B — 1/12 [B2.5] · Find a common denominator first — 6 and 4 both go into 12. Never add the denominators.
9 C — 17/12 [B2.5] · Find a common denominator first — 12 and 4 both go into 12. Never add the denominators.
10 A — 1 [B2.5] · Find a common denominator first — 2 and 4 both go into 4. Never add the denominators.
11 A — 7/20 [B2.5] · Find a common denominator first — 4 and 5 both go into 20. Never add the denominators.
12 B — 0 [B2.5] · Find a common denominator first — 2 and 8 both go into 8. Never add the denominators.

Sheet 14

1 D — 6901.2 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
2 C — 3879.2 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
3 A — 1293.6 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
4 B — 3524.5 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
5 B — 4060 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
6 D — 852.8 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
7 A — 335.3 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
8 A — 2500 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
9 D — 638.4 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
10 C — 469 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
11 D — 2338.4 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.
12 B — 2718.3 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 15

1 B — 66.2 [B2.8] · Dividing by 0.8 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 530 ÷ 8.
2 D — 33.3 [B2.8] · Dividing by 0.6 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 200 ÷ 6.
3 C — 61.7 [B2.8] · Dividing by 0.6 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 370 ÷ 6.
4 B — 22.5 [B2.8] · Dividing by 0.8 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 180 ÷ 8.
5 D — 53.8 [B2.8] · Dividing by 0.8 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 430 ÷ 8.
6 A — 86.7 [B2.8] · Dividing by 0.6 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 520 ÷ 6.
7 B — 80 [B2.8] · Dividing by 0.4 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 320 ÷ 4.
8 B — 62.5 [B2.8] · Dividing by 0.4 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 250 ÷ 4.
9 B — 38.3 [B2.8] · Dividing by 0.6 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 230 ÷ 6.
10 C — 20 [B2.8] · Dividing by 0.9 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 180 ÷ 9.
11 D — 85.7 [B2.8] · Dividing by 0.7 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 600 ÷ 7.
12 C — 38.6 [B2.8] · Dividing by 0.7 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 270 ÷ 7.

Sheet 16

1 C — 6 [B2.9] · Multiplying by 1/4: divide by 4, then multiply by 1.
2 C — 36 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
3 C — 24 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
4 D — 8 [B2.9] · Multiplying by 1/2: divide by 2, then multiply by 1.
5 D — 9 [B2.9] · Multiplying by 3/6: divide by 6, then multiply by 3.
6 C — 72 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
7 D — 2 [B2.9] · Multiplying by 1/6: divide by 6, then multiply by 1.
8 B — 64 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
9 A — 24 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
10 B — 32 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
11 D — 36 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.
12 A — 24 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.

Sheet 17

1 D — 9.308 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
2 D — 13.7166 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
3 C — 8.3783 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
4 D — 10.5582 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
5 C — 22.449 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
6 D — 9.8445 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
7 B — 9.6348 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
8 A — 8.4681 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
9 A — 7.6072 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
10 A — 11.3906 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
11 D — 0.1861 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.
12 A — 6.1524 kg [B2.11] · Divide as usual and keep the decimal point directly above where it started.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 18

1 A — 45 [B2.12] · 75% means 75 out of every 100.

2 C — 16 [B2.12] · 20% means 20 out of every 100.

3 B — 40 kg [B2.12] · Sand went up by a factor of 8, so cement must too.

4 A — 24 [B2.12] · 60% means 60 out of every 100.

5 D — 60 shapes per minute [B2.12] · Two steps. Find the FIRST rate, then double it. Do not double the total first and stop — that was the commonest error on this question.

6 B — 40 kg [B2.12] · Sand went up by a factor of 8, so cement must too.

7 D — 60 shapes per minute [B2.12] · Two steps. Find the FIRST rate, then double it. Do not double the total first and stop — that was the commonest error on this question.

8 D — 60 shapes per minute [B2.12] · Two steps. Find the FIRST rate, then double it. Do not double the total first and stop — that was the commonest error on this question.

9 C — 60 shapes per minute [B2.12] · Two steps. Find the FIRST rate, then double it. Do not double the total first and stop — that was the commonest error on this question.

10 A — 35 kg [B2.12] · Sand went up by a factor of 7, so cement must too.

11 B — 24 kg [B2.12] · Sand went up by a factor of 8, so cement must too.

12 B — 45 kg [B2.12] · Sand went up by a factor of 9, so cement must too.

Sheet 19

1 C — 74 [B2.1] · Two operations, in order. Multiply first, then subtract.

2 A — 90 [B2.1] · Two operations, in order. Multiply first, then subtract.

3 D — 128 [B2.1] · Two operations, in order. Multiply first, then subtract.

4 C — 179 [B2.1] · Two operations, in order. Multiply first, then subtract.

5 C — 109 [B2.1] · Two operations, in order. Multiply first, then subtract.

6 A — 71 [B2.1] · Two operations, in order. Multiply first, then subtract.

7 D — 112 [B2.1] · Two operations, in order. Multiply first, then subtract.

8 A — 115 [B2.1] · Two operations, in order. Multiply first, then subtract.

9 A — 136 [B2.1] · Two operations, in order. Multiply first, then subtract.

10 D — 258 [B2.1] · Two operations, in order. Multiply first, then subtract.

11 A — 207 [B2.1] · Two operations, in order. Multiply first, then subtract.

12 B — 268 [B2.1] · Two operations, in order. Multiply first, then subtract.

Sheet 20

1 A — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

2 B — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

3 A — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

4 C — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

5 D — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

6 B — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

7 B — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

8 D — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

9 C — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

10 D — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

11 C — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

12 C — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 21

1 **D — 13** [C1.3] · The term value goes up 5 each time the term number goes up 2, so the rule is value = 5 × term + 3. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

2 **B — 11** [C1.3] · The term value goes up 2 each time the term number goes up 2, so the rule is value = 2 × term + 1. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

3 **D — 11** [C1.3] · The term value goes up 5 each time the term number goes up 2, so the rule is value = 5 × term + 4. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

4 **C — 11** [C1.3] · The term value goes up 4 each time the term number goes up 2, so the rule is value = 4 × term + 2. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

5 **C — 11** [C1.3] · The term value goes up 5 each time the term number goes up 2, so the rule is value = 5 × term + 1. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

6 **B — 11** [C1.3] · The term value goes up 3 each time the term number goes up 2, so the rule is value = 3 × term + 1. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

7 **D — 13** [C1.3] · The term value goes up 4 each time the term number goes up 2, so the rule is value = 4 × term + 4. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

8 **B — 15** [C1.3] · The term value goes up 4 each time the term number goes up 2, so the rule is value = 4 × term + 1. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

9 **D — 13** [C1.3] · The term value goes up 2 each time the term number goes up 2, so the rule is value = 2 × term + 5. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

10 **A — 15** [C1.3] · The term value goes up 3 each time the term number goes up 2, so the rule is value = 3 × term + 3. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

11 **A — 11** [C1.3] · The term value goes up 4 each time the term number goes up 2, so the rule is value = 4 × term + 6. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

12 **D — 13** [C1.3] · The term value goes up 2 each time the term number goes up 2, so the rule is value = 2 × term + 5. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

Sheet 22

1 **C — 16** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

2 **B — 21** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

3 **D — 18** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

4 **C — 15** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

5 **D — 21** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

6 **D — 15** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

7 **B — 23** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

8 **C — 15** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

9 **D — 20** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

10 **A — 21** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

11 **A — 10** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

12 **A — 8** [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

Sheet 23

1 **B — 13x** [C2.1] · Like terms add. The x stays an x — it does not become x^2.

2 **C — 63.6** [C2.2] · Multiply before you add. Order of operations.

3 **A — 12x** [C2.1] · Like terms add. The x stays an x — it does not become x^2.

4 **D — 24.5** [C2.2] · Multiply before you add. Order of operations.

5 **A — 10x** [C2.1] · Like terms add. The x stays an x — it does not become x^2.

6 **C — 10** [C2.2] · Multiply before you add. Order of operations.

7 **A — 7x** [C2.1] · Like terms add. The x stays an x — it does not become x^2.

8 **D — 30** [C2.2] · Multiply before you add. Order of operations.

9 **D — 11x** [C2.1] · Like terms add. The x stays an x — it does not become x^2.

10 **C — 21.9** [C2.2] · Multiply before you add. Order of operations.

11 **A — 12x** [C2.1] · Like terms add. The x stays an x — it does not become x^2.

12 **A — 11.6** [C2.2] · Multiply before you add. Order of operations.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 24

1 C — 7 [C2.3] · Undo the + 15 first, then undo the × 3.

2 A — 72 − p = 22 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

3 B — 4 [C2.3] · Undo the + 13 first, then undo the × 7.

4 B — 74 − p = 21 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

5 A — 9 [C2.3] · Undo the + 2 first, then undo the × 6.

6 A — 72 + p = 118 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

7 B — 7 [C2.3] · Undo the + 12 first, then undo the × 8.

8 C — 5p = 265 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

9 D — 10 [C2.3] · Undo the + 12 first, then undo the × 6.

10 D — 77 − p = 25 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

11 D — 3 [C2.3] · Undo the + 15 first, then undo the × 5.

12 B — 56 + p = 108 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

Sheet 25

1 A — 6 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

2 A — 13 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

3 D — 10 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

4 A — 4 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

5 D — 7 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

6 B — 6 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

7 D — 5 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

8 A — 9 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

9 D — 13 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

10 C — 7 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

11 D — 4 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

12 B — 10 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

Sheet 26

1 D — is divisible by both 2 and 3 [C3.1] · Divisible by 6 exactly when it is divisible by both 2 and 3. A condition that is only *sometimes* true is not a rule.

2 B — 70 [C3.2] · The loop runs 6 times, adding 10 each time: 10 + (6 × 10).

3 C — has its last two digits divisible by 4 [C3.1] · Divisible by 4 exactly when it has its last two digits divisible by 4. A condition that is only *sometimes* true is not a rule.

4 B — 34 [C3.2] · The loop runs 5 times, adding 5 each time: 9 + (5 × 5).

5 B — has a last digit of 0 [C3.1] · Divisible by 10 exactly when it has a last digit of 0. A condition that is only *sometimes* true is not a rule.

6 C — 72 [C3.2] · The loop runs 7 times, adding 10 each time: 2 + (7 × 10).

7 B — has a digit sum divisible by 9 [C3.1] · Divisible by 9 exactly when it has a digit sum divisible by 9. A condition that is only *sometimes* true is not a rule.

8 B — 44 [C3.2] · The loop runs 7 times, adding 5 each time: 9 + (7 × 5).

9 D — has a digit sum divisible by 9 [C3.1] · Divisible by 9 exactly when it has a digit sum divisible by 9. A condition that is only *sometimes* true is not a rule.

10 A — 45 [C3.2] · The loop runs 7 times, adding 5 each time: 10 + (7 × 5).

11 D — has a digit sum divisible by 9 [C3.1] · Divisible by 9 exactly when it has a digit sum divisible by 9. A condition that is only *sometimes* true is not a rule.

12 C — 18 [C3.2] · The loop runs 4 times, adding 3 each time: 6 + (4 × 3).

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 27

1 A — circle graph [D1.3] · Parts of one whole means a circle graph. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

2 C — histogram [D1.3] · Intervals of a continuous quantity on the horizontal axis means a histogram — the bars touch because the data is continuous. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

3 A — histogram [D1.3] · Intervals of a continuous quantity on the horizontal axis means a histogram — the bars touch because the data is continuous. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

4 D — circle graph [D1.3] · Parts of one whole means a circle graph. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

5 D — histogram [D1.3] · Grouped intervals of measured data means a histogram. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

6 A — broken-line graph [D1.3] · One thing changing over time means a broken-line graph. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

7 B — histogram [D1.3] · Grouped intervals of measured data means a histogram. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

8 C — histogram [D1.3] · Intervals of a continuous quantity on the horizontal axis means a histogram — the bars touch because the data is continuous. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

9 D — histogram [D1.3] · Grouped intervals of measured data means a histogram. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

10 A — bar graph [D1.3] · Separate, unrelated categories means a bar graph with gaps between the bars. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

11 B — bar graph [D1.3] · Separate, unrelated categories means a bar graph with gaps between the bars. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

12 A — bar graph [D1.3] · Separate, unrelated categories means a bar graph with gaps between the bars. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

Sheet 28

1 A — 33 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

2 C — 37 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

3 B — 42 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

4 D — 27 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

5 C — 33 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

6 D — 37 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

7 B — 37 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

8 A — 32 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

9 D — 36 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

10 C — 36 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

11 C — 38 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

12 C — 47 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

Sheet 29

1 A — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

2 B — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

3 B — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

4 C — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

5 B — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

6 B — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

7 B — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

8 A — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

9 B — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

10 B — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

11 D — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

12 B — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 30

1 C — It exaggerates small differences — the bars look many times taller than each other. [D1.6] · Always read the axis before the bars.
2 B — It exaggerates small differences — the bars look many times taller than each other. [D1.6] · Always read the axis before the bars.
3 D — It exaggerates small differences — the bars look many times taller than each other. [D1.6] · Always read the axis before the bars.
4 B — Extra dimensions make some bars look bigger than their value. [D1.6] · Always read the axis before the bars.
5 D — It exaggerates small differences — the bars look many times taller than each other. [D1.6] · Always read the axis before the bars.
6 D — Unequal intervals distort the shape of the data. [D1.6] · Always read the axis before the bars.
7 B — Extra dimensions make some bars look bigger than their value. [D1.6] · Always read the axis before the bars.
8 C — It exaggerates small differences — the bars look many times taller than each other. [D1.6] · Always read the axis before the bars.
9 A — Unequal intervals distort the shape of the data. [D1.6] · Always read the axis before the bars.
10 A — Extra dimensions make some bars look bigger than their value. [D1.6] · Always read the axis before the bars.
11 A — Extra dimensions make some bars look bigger than their value. [D1.6] · Always read the axis before the bars.
12 D — Choosing which data to leave out can reverse the apparent trend. [D1.6] · Always read the axis before the bars.

Sheet 31

1 D — 1/10 [D2.1] · Reduce by the highest common factor.
2 C — 1/4 [D2.2] · For two independent events, multiply the probabilities.
3 C — 2/5 [D2.1] · Reduce by the highest common factor.
4 A — 1/6 [D2.2] · For two independent events, multiply the probabilities.
5 B — 83.3333% [D2.1] · 10 out of 12 = 5/6. Turn that into hundredths.
6 B — 1/12 [D2.2] · For two independent events, multiply the probabilities.
7 A — 3/8 [D2.1] · Reduce by the highest common factor.
8 D — 1/36 [D2.2] · For two independent events, multiply the probabilities.
9 D — 3/5 [D2.1] · Reduce by the highest common factor.
10 D — 1/12 [D2.2] · For two independent events, multiply the probabilities.
11 B — 1/4 [D2.1] · Reduce by the highest common factor.
12 A — 1/9 [D2.2] · For two independent events, multiply the probabilities.

Sheet 32

1 D — rectangle [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.
2 D — neither equal nor bisecting [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.
3 B — rhombus [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.
4 A — equal and bisect each other, not perpendicular [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.
5 C — rectangle [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.
6 C — perpendicular and bisect each other, not equal [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.
7 B — isosceles trapezoid [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.
8 C — perpendicular, one bisects the other [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.
9 B — square [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.
10 A — neither equal nor bisecting [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.
11 D — rhombus [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.
12 D — equal, do not bisect [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 33

1 D — a cube [E1.2] · Take each view one at a time and rule solids out.
2 C — a square pyramid [E1.2] · Take each view one at a time and rule solids out.
3 A — a square pyramid [E1.2] · Take each view one at a time and rule solids out.
4 C — a rectangular prism [E1.2] · Take each view one at a time and rule solids out.
5 B — a rectangular prism [E1.2] · Take each view one at a time and rule solids out.
6 C — a square pyramid [E1.2] · Take each view one at a time and rule solids out.
7 C — a cylinder [E1.2] · Take each view one at a time and rule solids out.
8 C — a cone [E1.2] · Take each view one at a time and rule solids out.
9 C — a square pyramid [E1.2] · Take each view one at a time and rule solids out.
10 D — a cylinder [E1.2] · Take each view one at a time and rule solids out.
11 B — a cube [E1.2] · Take each view one at a time and rule solids out.
12 C — a cylinder [E1.2] · Take each view one at a time and rule solids out.

Sheet 34

1 C — 4 up [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
2 D — 1 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
3 B — 3 right and 2 up [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
4 D — 6 left and 2 up [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
5 D — 1 left [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
6 B — 1 left and 3 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
7 D — 5 left and 5 up [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
8 B — 3 right and 6 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
9 B — 5 right and 1 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
10 A — 4 left and 6 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
11 C — 5 right and 3 up [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.
12 C — 6 right and 4 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.

Sheet 35

1 C — 180° counterclockwise [E1.4] · A full turn is 360°. Going 180° one way is the same as going 180° the other way.
2 B — 180° counterclockwise [E1.4] · A full turn is 360°. Going 180° one way is the same as going 180° the other way.
3 C — 270° counterclockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.
4 B — 180° clockwise [E1.4] · A full turn is 360°. Going 180° one way is the same as going 180° the other way.
5 C — 270° counterclockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.
6 D — 270° counterclockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.
7 D — 270° clockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.
8 C — 90° clockwise [E1.4] · A full turn is 360°. Going 270° one way is the same as going 90° the other way.
9 D — 270° clockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.
10 B — 180° clockwise [E1.4] · A full turn is 360°. Going 180° one way is the same as going 180° the other way.
11 A — 90° counterclockwise [E1.4] · A full turn is 360°. Going 270° one way is the same as going 90° the other way.
12 D — 270° clockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 36

1 B — 4.8 kg [E2.1] · There are 1000 g in 1 kg, so divide.
2 D — 0.25 L [E2.1] · There are 1000 mL in 1 L, so divide.
3 D — 25 cm [E2.1] · There are 10 mm in 1 cm, so divide.
4 A — 0.15 m² [E2.1] · There are 10000 cm² in 1 m², so divide.
5 C — 0.05 m² [E2.1] · There are 10000 cm² in 1 m², so divide.
6 B — 2.5 kg [E2.1] · There are 1000 g in 1 kg, so divide.
7 B — 150 cm [E2.1] · There are 10 mm in 1 cm, so divide.
8 A — 250 cm [E2.1] · There are 10 mm in 1 cm, so divide.
9 A — 0.5 kg [E2.1] · There are 1000 g in 1 kg, so divide.
10 A — 50 cm [E2.1] · There are 10 mm in 1 cm, so divide.
11 B — 0.5 L [E2.1] · There are 1000 mL in 1 L, so divide.
12 A — 2.5 L [E2.1] · There are 1000 mL in 1 L, so divide.

Sheet 37

1 D — 332° [E2.2] · Clockwise gives 28°. A full turn is 360°, so counterclockwise is 360 − 28 = 332°. Only 26% of students at Level 2 got this.
2 C — 113° [E2.3] · Supplementary angles sum to 180°.
3 B — 297° [E2.2] · Clockwise gives 63°. A full turn is 360°, so counterclockwise is 360 − 63 = 297°. Only 26% of students at Level 2 got this.
4 D — 20° [E2.3] · Opposite (vertical) angles are equal.
5 A — 297° [E2.2] · Clockwise gives 63°. A full turn is 360°, so counterclockwise is 360 − 63 = 297°. Only 26% of students at Level 2 got this.
6 A — 126° [E2.3] · Supplementary angles sum to 180°.
7 B — 325° [E2.2] · Clockwise gives 35°. A full turn is 360°, so counterclockwise is 360 − 35 = 325°. Only 26% of students at Level 2 got this.
8 C — 157° [E2.3] · Supplementary angles sum to 180°.
9 B — 297° [E2.2] · Clockwise gives 63°. A full turn is 360°, so counterclockwise is 360 − 63 = 297°. Only 26% of students at Level 2 got this.
10 A — 59° [E2.3] · Opposite (vertical) angles are equal.
11 D — 312° [E2.2] · Clockwise gives 48°. A full turn is 360°, so counterclockwise is 360 − 48 = 312°. Only 26% of students at Level 2 got this.
12 C — 139° [E2.3] · Supplementary angles sum to 180°.

Sheet 38

1 A — 248 cm² [E2.4] · Decompose: whole rectangle 20×14 = 280, minus the notch 4×8 = 32. Only 39% of students at Level 3 handled a composite area correctly.
2 C — 78 cm² [E2.4] · Area of a trapezoid = (sum of the parallel sides) × height ÷ 2. Or decompose it into a rectangle and two triangles.
3 D — 150 cm² [E2.4] · Decompose: whole rectangle 15×12 = 180, minus the notch 5×6 = 30. Only 39% of students at Level 3 handled a composite area correctly.
4 A — 48 cm² [E2.4] · Area of a trapezoid = (sum of the parallel sides) × height ÷ 2. Or decompose it into a rectangle and two triangles.
5 D — 250 cm² [E2.4] · Decompose: whole rectangle 20×14 = 280, minus the notch 5×6 = 30. Only 39% of students at Level 3 handled a composite area correctly.
6 A — 72 cm² [E2.4] · Area of a trapezoid = (sum of the parallel sides) × height ÷ 2. Or decompose it into a rectangle and two triangles.
7 B — 148 cm² [E2.4] · Decompose: whole rectangle 18×10 = 180, minus the notch 4×8 = 32. Only 39% of students at Level 3 handled a composite area correctly.
8 C — 52 cm² [E2.4] · Area of a trapezoid = (sum of the parallel sides) × height ÷ 2. Or decompose it into a rectangle and two triangles.
9 B — 156 cm² [E2.4] · Decompose: whole rectangle 18×10 = 180, minus the notch 6×4 = 24. Only 39% of students at Level 3 handled a composite area correctly.
10 C — 72 cm² [E2.4] · Area of a trapezoid = (sum of the parallel sides) × height ÷ 2. Or decompose it into a rectangle and two triangles.
11 D — 146 cm² [E2.4] · Decompose: whole rectangle 16×11 = 176, minus the notch 5×6 = 30. Only 39% of students at Level 3 handled a composite area correctly.
12 D — 130 cm² [E2.4] · Area of a trapezoid = (sum of the parallel sides) × height ÷ 2. Or decompose it into a rectangle and two triangles.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 39

1 C — 258 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

2 A — 258 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

3 A — 166 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

4 C — 228 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

5 D — 280 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

6 B — 520 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

7 A — 280 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

8 C — 238 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

9 A — 370 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

10 A — 264 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

11 D — 314 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

12 A — 174 cm² [E2.6] · Six faces, in three matching pairs. Find the area of three different faces, add them, then double. Surface area is cm², not cm³.

Sheet 40

1 D — moves money between accounts electronically, usually with a fee or a limit [F1.1] · Know the trade-off attached to each method.

2 C — an earning goal [F1.2] · Separate the goal itself from the things that help or hinder it.

3 A — $90 [F1.4] · 6% of $1500. Interest is the cost of borrowing — it is on top of what you repay.

4 C — trading [F1.5] · Four different ways resources move between people.

5 C — cannot be traced or reversed if it is lost [F1.1] · Know the trade-off attached to each method.

6 A — an earning goal [F1.2] · Separate the goal itself from the things that help or hinder it.

7 C — $75 [F1.4] · 5% of $1500. Interest is the cost of borrowing — it is on top of what you repay.

8 D — lending [F1.5] · Four different ways resources move between people.

9 B — debit card [F1.1] · Know the trade-off attached to each method.

10 A — an earning goal [F1.2] · Separate the goal itself from the things that help or hinder it.

11 A — $6 [F1.4] · 3% of $200. Interest is the cost of borrowing — it is on top of what you repay.

12 A — lending [F1.5] · Four different ways resources move between people.

Sheet 42

1 A — Why bridges are built with deliberate gaps, and what goes wrong when the gaps are the wrong size [C2.6] · The main idea is the one sentence that survives if you forget the details.

2 A — the subheading “What happens when the gap is wrong” [C1.3] · Subheadings are signposts. Naming one is not enough — know what it does.

3 A — a comparison that contrasts two rates of damage [C3.1] · Look at what the sentence is *doing*, not only what it says.

4 A — jammed so that it can no longer move [B2.2] · The same word has several meanings. The sentence tells you which one.

5 Full-mark answer names the evidence — a bridge is expected to last a century, and the climate itself may shift in that time — AND connects it: so the temperature range used in the original calculation may turn out to be too narrow. Evidence plus the connection. Evidence alone scores 20. [C3.2]

Sheet 44

1 A — It means nothing is wrong with the work, but nothing is special about it either [C3.2] · The text spells it out: “Nothing wrong with it. Nothing in it either.”

2 A — Watching the woman choose a corner rather than the centre [C3.3] · The turning point is the moment after which the character cannot go back.

3 A — third person, following Priya [C1.6] · “Priya had redrawn…”, “she felt…”. Third person, but staying inside one character.

4 A — metaphor — the word is described as if it were a falling object [C3.1] · Hyperbole exaggerates; metaphor says one thing IS another.

5 A — She learned more from using the space than from redrawing it [C3.2] · A short line of dialogue can carry the whole point of a story.

6 A — Designing for real people means watching what they actually do [C3.6] · A theme is an idea about the world, not a summary of the plot.

7 A — Symmetry would be easier to justify to someone who asked [C3.2] · The text says symmetry “was easier to defend”. Look for the reason, not the action.

8 A — He agrees with it and wants her to commit to it further [C3.2] · “If you're going to be right, be right properly” — he is pushing her further in, not back.

9 A — “Priya started composing the defence in her head” [C3.3] · Find the line that shows the thought, not the action.

10 A — By marking the days — “the fifth afternoon”, “until nearly midnight” [C1.3] · Narrative texts move through time with signposts rather than subheadings.

11 Full-mark answer cites the woman moving her chair into the angle where two beams met — or Priya's realisation that “nobody sat in the centre of anything” — AND connects it: which shows the new perimeter seating and deepened corner match how people actually use a shelter. Evidence without the connection scores 20. [C3.2]

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Answers, continued

Sheet 45

1 A — The brief listed three requirements: shade, seating and drainage. [B3.3] · A colon follows a complete clause and introduces what comes next.

2 A — The pavilion was designed by a Grade 6 class. [B3.2] · Passive: the thing having something done to it comes first.

3 A — Measuring [B3.2] · A gerund is an -ing verb doing the job of a noun.

4 A — The beam that cracked was replaced on Friday. [B3.1] · A relative clause starts with who, which or that and describes a noun.

5 A — after “However” [B3.3] · A comma follows a transitional word or phrase at the start of a sentence.

6 A — impractical [D2.3] · Precise beats intensified. “Very bad” is still vague.

7 A — The set of drawings were delivered late. [B3.2] · The subject is “set”, which is singular — not “drawings”.

8 A — The roof leaked because the joint had seized. [B3.1] · Combining should show the *relationship* — here, cause.

9 A — The class voted on a name for the pavilion. [D1.4] · Every sentence in a paragraph should serve its main idea.

10 A — Our class is asking the council to approve a shaded seating area for the north field. [D1.1] · A proposal states the ask in the first sentence.

11 A — The frame was finished; the decking was not. [B3.3] · A semicolon joins two complete sentences that are closely related.

12 A — Everyone knows the centre is the best place for seating. [C3.5] · “Everyone knows” is a signal that no evidence is coming.

Sheet 46

Writing task Open task — no fixed answer. A 40/30 response has a clear focus, specific supporting detail, a logical order and a real ending. Mark Topic Development and Conventions separately; do not let spelling drag down the development score. [D2.1]

Sheet 48

1 C — 32 [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

2 D — 70,000 [B1.1] · Ten thousands is the fifth digit from the right.

3 A — 6 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.

4 A — 44 [B2.8] · Dividing by 0.5 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 220 ÷ 5.

5 A — 36 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.

6 C — 6.077 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.

7 D — 288° [E2.2] · Clockwise gives 72°. A full turn is 360°, so counterclockwise is 360 − 72 = 288°. Only 26% of students at Level 2 got this.

8 C — 25 m [E2.1] · There are 100 cm in 1 m, so divide.

9 A — 156 cm² [E2.4] · Decompose: whole rectangle 18×10 = 180, minus the notch 6×4 = 24. Only 39% of students at Level 3 handled a composite area correctly.

10 D — is divisible by both 2 and 3 [C3.1] · Divisible by 6 exactly when it is divisible by both 2 and 3. A condition that is only *sometimes* true is not a rule.

11 D — 6 up [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.

Sheet 49

12 A — kite [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.

13 D — lending [F1.5] · Four different ways resources move between people.

14 A — 14x [C2.1] · Like terms add. The x stays an x — it does not become x^2.

15 D and E — 29, 17 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.

16 C — 1/12 [D2.2] · For two independent events, multiply the probabilities.

17 A — $20 [F1.4] · 2% of $1000. Interest is the cost of borrowing — it is on top of what you repay.

18 B — 13 [C2.2] · Multiply before you add. Order of operations.

19 C — continuous [D1.1] · Continuous data is measured and can take any value in between — including fractions.

20 D — 30% [D2.1] · 3 out of 10 = 3/10. Turn that into hundredths.

21 B — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

22 B — 15 [C1.3] · The term value goes up 3 each time the term number goes up 2, so the rule is value = 3 × term + 4. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 50

23 C — a step that helps reach a goal [F1.2] · Separate the goal itself from the things that help or hinder it.

24 D — 40.41 [B2.4] · Line up the decimal points, not the last digits.

25 C — 91 − p = 37 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

26 B — e-transfer [F1.1] · Know the trade-off attached to each method.

27 D — 0.2 [B1.6] · 2 hundredths written as a decimal is 0.02. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.

28 A — 3/4, 0.75, 1.5, 2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.

29 A — 204 [B2.2] · Divisible by 3 when the digit sum is divisible by 3.

30 B — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

31 B — 20 [B2.3] · 5% of 400: find 10% first (40), then adjust.

32 D — 31 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

33 C — 333 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.

Sheet 51

34 B — circle graph [D1.3] · Parts of one whole means a circle graph. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

35 B — perpendicular and bisect each other, not equal [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.

36 D — 20° [E2.3] · Opposite (vertical) angles are equal.

37 C — 270° counterclockwise [E1.4] · A full turn is 360°. Going 90° one way is the same as going 270° the other way.

38 C — 9 [C2.3] · Undo the + 3 first, then undo the × 9.

39 D — 26 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.

40 D — 19/24 [B2.5] · Find a common denominator first — 3 and 8 both go into 24. Never add the denominators.

41 D — 12 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

42 D — a rectangular prism [E1.2] · Take each view one at a time and rule solids out.

43 B — histogram [D1.3] · Grouped intervals of measured data means a histogram. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

44 C — Unequal intervals distort the shape of the data. [D1.6] · Always read the axis before the bars.

Sheet 53

1 C — borrowing [F1.5] · Four different ways resources move between people.

2 B — 2/5 [B2.5] · Find a common denominator first — 4 and 10 both go into 20. Never add the denominators.

3 B — 4.150 [B1.4] · Line the decimals up by place value. Compare tenths, then hundredths, then thousandths.

4 D — 32 [C1.3] · Write out the first six terms of each pattern, then look for the number in all three lists. Do not stop at the first pattern.

5 D — 35 [B2.8] · Dividing by 0.2 makes the answer bigger, not smaller. Multiply both numbers by 10 first: 70 ÷ 2.

6 A — 30.91 [B1.5] · Look only at the digit immediately to the right of the place you are rounding to.

7 A — 47 [D1.5] · Range = largest − smallest. Median = the middle one once they are in order. Mean = add them all and divide by how many.

8 B — 90° counterclockwise [E1.4] · A full turn is 360°. Going 270° one way is the same as going 90° the other way.

9 D — Unequal intervals distort the shape of the data. [D1.6] · Always read the axis before the bars.

10 D — 16 [B2.10] · Dividing by a fraction smaller than 1 gives MORE pieces, not fewer.

11 D — 3 right and 1 down [E1.3] · Subtract the start from the finish. x controls left/right, y controls up/down. Watch the signs in the negative quadrants.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 54

12 A — 20.88 [B2.4] · Line up the decimal points, not the last digits.

13 C — a saving goal [F1.2] · Separate the goal itself from the things that help or hinder it.

14 A — a cylinder [E1.2] · Take each view one at a time and rule solids out.

15 A — 12 [C2.3] · Undo the + 12 first, then undo the × 4.

16 A — 100 [B2.3] · 50% of 200: find 10% first (20), then adjust.

17 B — has its last three digits divisible by 8 [C3.1] · Divisible by 8 exactly when it has its last three digits divisible by 8. A condition that is only *sometimes* true is not a rule.

18 D — 12x [C2.1] · Like terms add. The x stays an x — it does not become x^2.

19 A — 20% [D2.1] · 4 out of 20 = 1/5. Turn that into hundredths.

20 B and C — 23, 37 [B2.6] · A prime has exactly two factors: 1 and itself. Check 3, 7, 11 and 13 as divisors — 39% of students at Level 3 missed one of the two.

21 A — 82.8 [C2.2] · Multiply before you add. Order of operations.

22 B — 12 [C2.4] · Solve as if it were an equation, then check whether the boundary value itself works.

Sheet 55

23 C — 15 [C1.3] · The term value goes up 2 each time the term number goes up 2, so the rule is value = 2 × term + 1. Solve for the TERM NUMBER — the commonest error is giving another term value instead.

24 D — histogram [D1.3] · Intervals of a continuous quantity on the horizontal axis means a histogram — the bars touch because the data is continuous. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

25 D — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

26 A — 80,000 [B1.1] · Ten thousands is the fifth digit from the right.

27 C — moves money between accounts electronically, usually with a fee or a limit [F1.1] · Know the trade-off attached to each method.

28 C — $10 [F1.4] · 2% of $500. Interest is the cost of borrowing — it is on top of what you repay.

29 A — 810 [B2.2] · Divisible by 9 when the digit sum is divisible by 9.

30 A — 1/6 [D2.2] · For two independent events, multiply the probabilities.

31 B — 61 + p = 112 [C2.3] · Solve every single one before choosing. Two of these are within a couple of units of each other, and nearly half of students at Level 2 picked the wrong one of the pair.

32 D — 0.8 [B1.6] · 8 thousandths written as a decimal is 0.008. Count the places carefully — a third of students at Level 3 got the equivalent of this wrong.

33 B — discrete [D1.1] · Discrete data is counted in whole steps. You cannot have half a visitor.

Sheet 56

34 C — circle graph [D1.3] · Parts of one whole means a circle graph. This was the hardest question on the released set — only 37% of students at Level 3, and 56% at Level 4, chose correctly.

35 C — 32 [B1.2] · Distance on a number line is always positive. Count from a up to 0, then 0 up to b.

36 C — 288° [E2.2] · Clockwise gives 72°. A full turn is 360°, so counterclockwise is 360 − 72 = 288°. Only 26% of students at Level 2 got this.

37 D — linear growing — it goes up by the same amount each time [C1.1] · Linear means a constant jump. Check the gap between every pair, not just the first.

38 B — 157° [E2.3] · Supplementary angles sum to 180°.

39 B — 144 cm^2 [E2.4] · Decompose: whole rectangle 16×11 = 176, minus the notch 4×8 = 32. Only 39% of students at Level 3 handled a composite area correctly.

40 C — 2684 cm [B2.7] · Multiply as whole numbers, then put back one decimal place.

41 A — 4.8 L [E2.1] · There are 1000 mL in 1 L, so divide.

42 D — −1, 0.2, 3/4, 2 [B1.3] · Turn every one into a decimal first. Negatives are always smaller than positives.

43 D — bisect each other only [E1.1] · Draw both diagonals and check three things: equal length, right angles, and whether each cuts the other in half.

44 D — square [E1.1] · Fold it in half. A square has 4, a rectangle and a rhombus have 2, a kite has 1, a parallelogram has 0. Only 48% of students at Level 3 got the rhombus version right.

Generated, not typed. Every numeric answer here was computed by the same code that printed the question, so the key cannot disagree with the sheet.

Answers, continued

Sheet 58

1 A — It means nothing is wrong with the work, but nothing is special about it either [C3.2] · The text spells it out: “Nothing wrong with it. Nothing in it either.”

2 A — Watching the woman choose a corner rather than the centre [C3.3] · The turning point is the moment after which the character cannot go back.

3 A — third person, following Priya [C1.6] · “Priya had redrawn…”, “she felt…”. Third person, but staying inside one character.

4 A — metaphor — the word is described as if it were a falling object [C3.1] · Hyperbole exaggerates; metaphor says one thing IS another.

5 A — She learned more from using the space than from redrawing it [C3.2] · A short line of dialogue can carry the whole point of a story.

6 A — Designing for real people means watching what they actually do [C3.6] · A theme is an idea about the world, not a summary of the plot.

7 A — Symmetry would be easier to justify to someone who asked [C3.2] · The text says symmetry “was easier to defend”. Look for the reason, not the action.

8 A — He agrees with it and wants her to commit to it further [C3.2] · “If you're going to be right, be right properly” — he is pushing her further in, not back.

9 A — “Priya started composing the defence in her head” [C3.3] · Find the line that shows the thought, not the action.

10 A — By marking the days — “the fifth afternoon”, “until nearly midnight” [C1.3] · Narrative texts move through time with signposts rather than subheadings.

11 Full-mark answer cites the woman moving her chair into the angle where two beams met — or Priya's realisation that “nobody sat in the centre of anything” — AND connects it: which shows the new perimeter seating and deepened corner match how people actually use a shelter. Evidence without the connection scores 20. [C3.2]

Sheet 59

12 A — Why bridges are built with deliberate gaps, and what goes wrong when the gaps are the wrong size [C2.6] · The main idea is the one sentence that survives if you forget the details.

13 A — the subheading “What happens when the gap is wrong” [C1.3] · Subheadings are signposts. Naming one is not enough — know what it does.

14 A — a comparison that contrasts two rates of damage [C3.1] · Look at what the sentence is *doing*, not only what it says.

15 A — jammed so that it can no longer move [B2.2] · The same word has several meanings. The sentence tells you which one.

16 Full-mark answer names the evidence — a bridge is expected to last a century, and the climate itself may shift in that time — AND connects it: so the temperature range used in the original calculation may turn out to be too narrow. Evidence plus the connection. Evidence alone scores 20. [C3.2]

17 A — The brief listed three requirements: shade, seating and drainage. [B3.3] · A colon follows a complete clause and introduces what comes next.

18 A — The pavilion was designed by a Grade 6 class. [B3.2] · Passive: the thing having something done to it comes first.

19 A — Measuring [B3.2] · A gerund is an -ing verb doing the job of a noun.

20 A — The beam that cracked was replaced on Friday. [B3.1] · A relative clause starts with who, which or that and describes a noun.

21 A — after “However” [B3.3] · A comma follows a transitional word or phrase at the start of a sentence.

22 A — impractical [D2.3] · Precise beats intensified. “Very bad” is still vague.

Sheet 60

23 A — The set of drawings were delivered late. [B3.2] · The subject is “set”, which is singular — not “drawings”.

24 A — The roof leaked because the joint had seized. [B3.1] · Combining should show the *relationship* — here, cause.

25 A — The class voted on a name for the pavilion. [D1.4] · Every sentence in a paragraph should serve its main idea.

26 A — Our class is asking the council to approve a shaded seating area for the north field. [D1.1] · A proposal states the ask in the first sentence.

27 A — The frame was finished; the decking was not. [B3.3] · A semicolon joins two complete sentences that are closely related.

28 A — Everyone knows the centre is the best place for seating. [C3.5] · “Everyone knows” is a signal that no evidence is coming.

29 Open task — persuasive. A 40/30 response states the position in the first sentence, gives at least three reasons with the strongest last, and closes by saying what the council should do. [D2.1]

Marking a full paper? Do not turn it into a score out of 44. Tick each question against its expectation code, then list every code missed more than once. That list is the teaching plan.

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