

# PRACTICE EXAM 12: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

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## STAGE 1 — Questions 1–10

1. A science museum had 583 visitors on Saturday and 264 visitors on Sunday. How many visitors came to the museum across both days?

- A. 319
- B. 847
- C. 247
- D. 747

2. What is the value of the digit 7 in the number 472?

- A. 70
- B. 7
- C. 700
- D. 7,000

3. Round the number 365 to the nearest ten.

- A. 300
- B. 360
- C. 400
- D. 370

4. A swim team did a relay race that was 300 metres long. The first swimmer covered 125 metres. How many metres are left for the rest of the team to swim?

- A. 425 m
- B. 175 m

- C. 215 m
- D. 285 m

5. A class collected 48 cans for a food drive. They want to pack them into boxes that hold 8 cans each. How many boxes do they need?

- A. 8 boxes
- B. 40 boxes
- C. 7 boxes
- D. 6 boxes

6. A pizza is cut into 4 equal slices. Mateo ate 1 slice and gave 1 slice to his sister. What fraction of the pizza is left?

- A.  $\frac{2}{4}$
- B.  $\frac{1}{4}$
- C.  $\frac{4}{2}$
- D.  $\frac{3}{4}$

7. Skip count by 50s starting from 100. What is the fifth number you say?

- A. 250
- B. 300
- C. 350
- D. 400

8. Layla buys a craft kit for \$14.45. She pays with a \$20 bill. How much change does Layla receive?

- A. \$6.55
- B. \$5.55
- C. \$4.55
- D. \$34.45

9. Which expression has the same value as  $4 \times 6$ ?

A.  $6 + 6 + 6 + 6$

B.  $4 + 6$

C. 46

D.  $4 + 4 + 4 + 4$

10. Which fraction is equivalent to  $\frac{2}{3}$ ?

A.  $\frac{2}{6}$

B.  $\frac{3}{2}$

C.  $\frac{4}{6}$

D.  $\frac{2}{9}$

**STAGE 2 — Questions 11–20**

11. Compare the two expressions. Which symbol makes the statement true?

$$7 \times 8 \text{ \_\_\_ } 9 \times 6$$

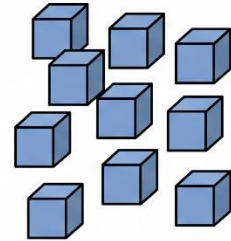
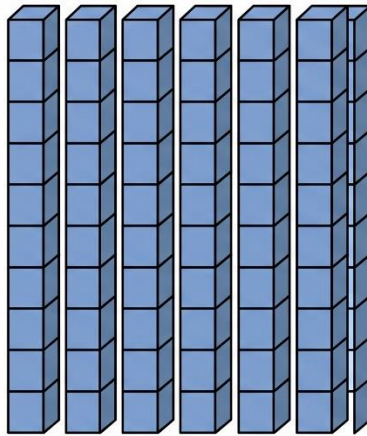
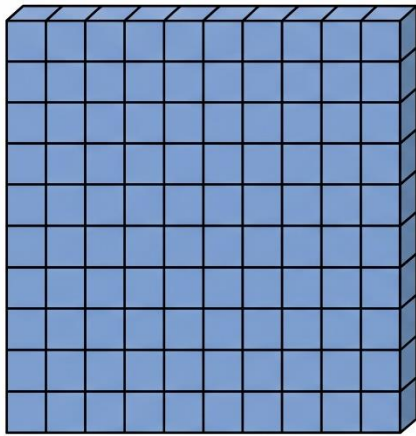
A.

B.  $>$

C.  $=$

D.  $\neq$  and

12. Look at the base-ten blocks below. What number do they represent?



- A. 197
- B. 719
- C. 791
- D. 179

13. Jaden has 6 loonies, 8 quarters, and 4 dimes. How much money does Jaden have in total?

- A. \$8.40
- B. \$7.40
- C. \$8.04
- D. \$9.40

14. What is  $80 \div 8$ ?

- A. 80
- B. 8
- C. 10
- D. 18

15. Find the missing number in this pattern: 200, 175, 150, \_\_\_\_, 100, 75.

- A. 130
- B. 140
- C. 125
- D. 120

16. What is the rule for this pattern: 3, 6, 9, 12, 15, 18 ?

- A. Start at 3 and add 6 each time
- B. Start at 3 and add 3 each time
- C. Start at 3 and multiply by 2 each time
- D. Start at 3 and subtract 3 each time

17. Solve for n in the equation:  $n - 27 = 38$ .

- A. 65
- B. 11
- C. 27
- D. 38

18. A robot starts at 10. It follows this code:

REPEAT 6 TIMES: Add 5.

What is the final value?

- A. 30
- B. 35
- C. 40
- D. 50

19. Which equation is TRUE?

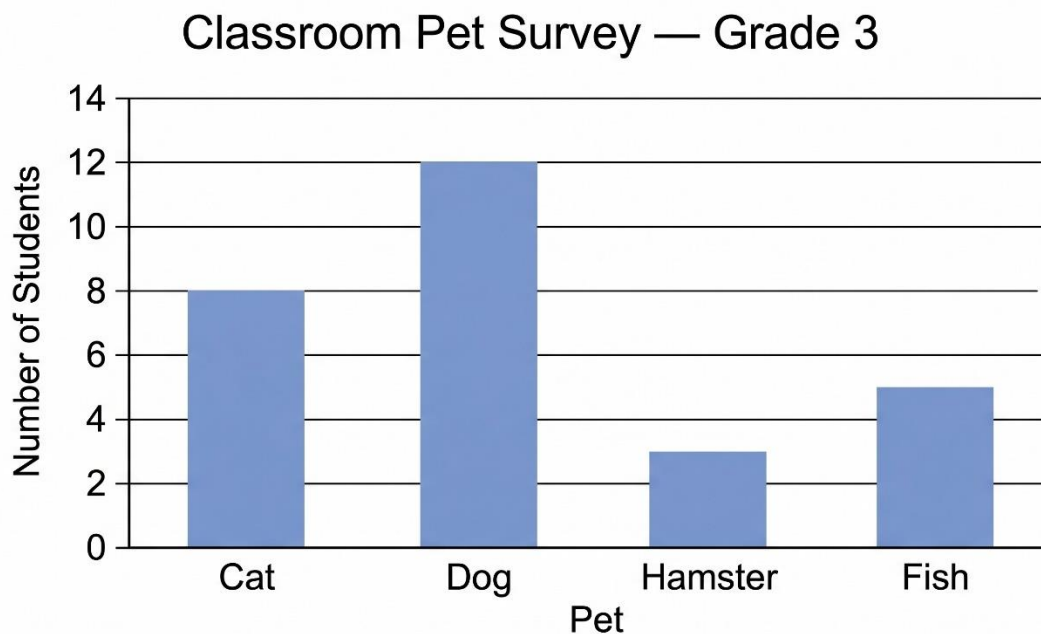
- A.  $11 \times 2 = 11 + 2$
- B.  $50 - 25 = 5 \times 10$
- C.  $16 + 8 = 16 \times 8$
- D.  $36 \div 9 = 8 \div 2$

20. A bookstore has 64 children's books. They display the books in equal rows of 8 books each. How many rows of children's books are there?

- A. 56 rows
- B. 8 rows
- C. 64 rows
- D. 72 rows

**STAGE 3 — Questions 21–30**

21. Look at the bar graph below. Which animal is owned by the most students as a pet?

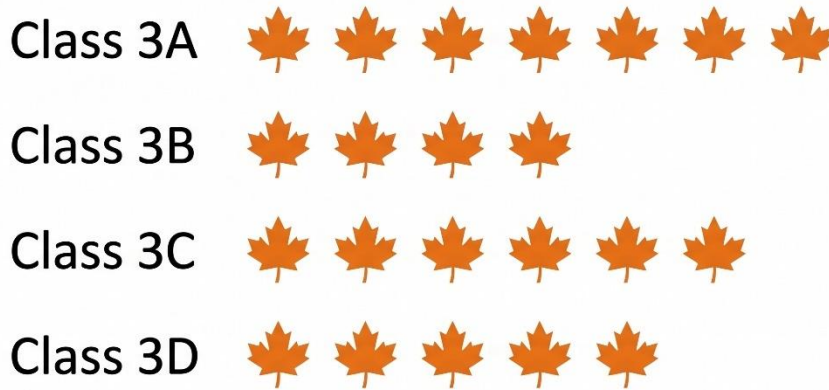



- A. Cat
- B. Fish

- C. Hamster
- D. Dog

22. Look at the pictograph below. Each leaf icon stands for 5 leaves collected. How many leaves did Class 3A collect?

### Autumn Leaves Collected for Science Project



 = 5 leaves

- A. 35 leaves
- B. 12 leaves
- C. 25 leaves
- D. 30 leaves

23. Find the mean of this data set: 7, 13, 9, 5, 11.

- A. 11
- B. 9
- C. 13
- D. 45

24. Find the mode of this data set: 14, 9, 14, 7, 14, 12, 9, 14.

- A. 9

- B. 7
- C. 12
- D. 14

25. A spinner has 4 equal sections: 2 red, 1 blue, and 1 green. Landing on red is:

- A. Equally likely to landing on blue and green combined
- B. Less likely than landing on blue
- C. Less likely than landing on green
- D. Impossible

26. Look at the frequency table below. How many students were surveyed in total?

### Favourite Recess Game.

<b>Game</b>	<b>Number of Students</b>
Tag	14
Hopscotch	6
Four Square	9
Jump Rope	11.
Total	

- A. 30 students
- B. 35 students
- C. 50 students
- D. 40 students

27. A weather forecast says there is a 0% chance of snow tomorrow. Snow tomorrow is:

- A. Likely
- B. Impossible
- C. Equally likely
- D. Certain

28. Look at the bar graph in Figure PQ-2 again. How many more students own a dog than a hamster?

- A. 12 students
- B. 15 students
- C. 3 students
- D. 9 students

29. The table below shows the number of cans of food donated each day during a food drive. What is the total number of cans donated across all 5 days?

Figure PQ-5: Clean educational data table on white background with clear black borders. Title at top: 'Food Drive — Cans Donated.'

<b>Day</b>	<b>Cans Donated</b>
Monday	23
Tuesday	17
Wednesday	31
Thursday	14
Friday	25

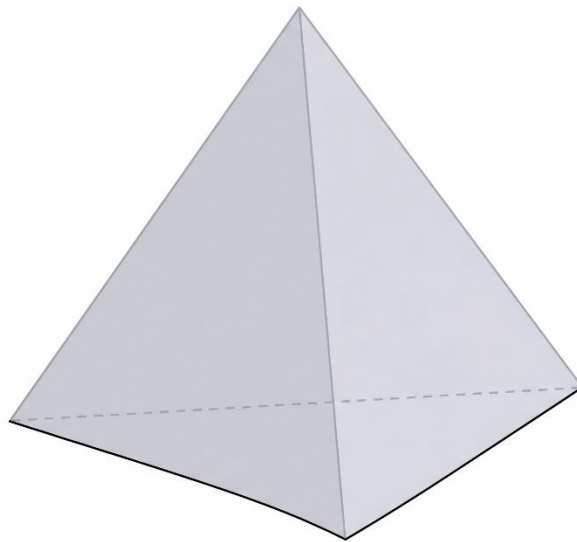
- A. 110 cans
- B. 105 cans
- C. 100 cans
- D. 115 cans

30. A bag contains 5 red marbles and 5 blue marbles. Drawing a red marble is:

- A. Certain
- B. Impossible
- C. Equally likely to drawing blue
- D. Unlikely

STAGE 4 — Questions 31–40

31. Look at the 3D shape below. How many faces does it have?



- A. 4 faces
- B. 5 faces
- C. 6 faces
- D. 3 faces

32. Which 3D shape has exactly 6 vertices and 9 edges?

- A. Square pyramid
- B. Triangular prism
- C. Rectangular prism

D. Cube

33. A square has all 4 sides equal. If each side is 8 cm, what is its perimeter?

A. 16 cm

B. 24 cm

C. 32 cm

D. 64 cm

34. A character is facing east. The character makes a quarter-turn to the right, then a half-turn. Which direction is the character facing now?

A. East

B. North

C. South

D. West

35. Which unit is best for measuring the capacity of a teaspoon?

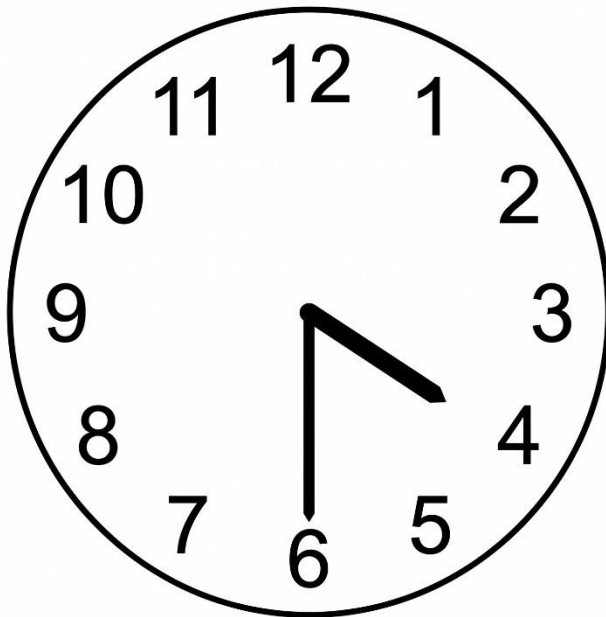
A. Litres

B. Grams

C. Millilitres

D. Kilograms

36. Look at the analog clock below. What time is shown?

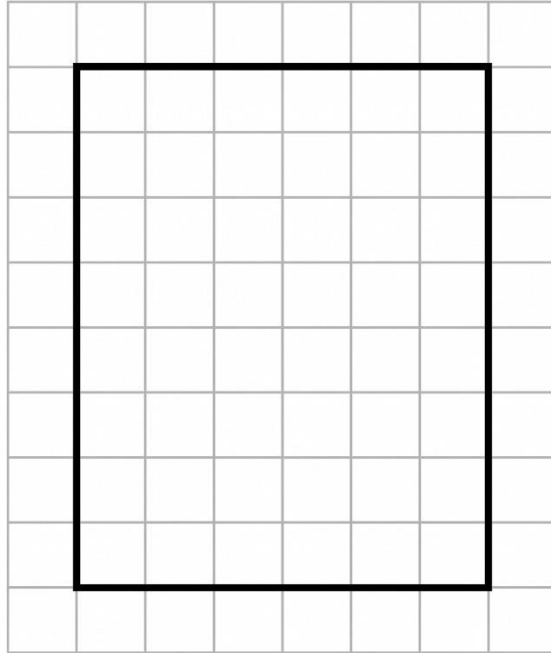


- A. 4:30
- B. 6:20
- C. 5:30
- D. 4:06

37. A school assembly starts at 11:40 AM and ends at 1:25 PM. How long is the school assembly?

- A. 2 hours
- B. 1 hour 45 minutes
- C. 2 hours 15 minutes
- D. 45 minutes

38. Look at the rectangle drawn on the grid below. What is its area?



- A. 14 square centimetres
- B. 28 square centimetres
- C. 32 square centimetres
- D. 48 square centimetres

39. A juice box holds 250 millilitres. How many juice boxes would it take to fill a 1-litre bottle?

- A. 2 juice boxes
- B. 5 juice boxes
- C. 4 juice boxes
- D. 10 juice boxes

40. A regular octagon has 8 sides of equal length. If each side measures 6 cm, what is the perimeter?

- A. 14 cm
- B. 48 cm
- C. 56 cm
- D. 64 cm

## Practice Exam 12: Answer Key and Explanations

- 1. B — 847.** Add using the standard algorithm:  $583 + 264 = 847$ . Ones:  $3 + 4 = 7$ . Tens:  $8 + 6 = 14$  (write 4, carry 1). Hundreds:  $1 + 5 + 2 = 8$ . Estimation check:  $580 + 260 = 840$ , close to 847. This tests addition with regrouping in the tens place only (curriculum expectation B2.5).
- 2. A — 70.** The digit 7 sits in the tens place of the number 472. Its value is  $7 \times 10 = 70$ . Always distinguish between the digit (7) and the digit's value (70) — same digit, different amount depending on position. This is a core place-value concept from Chapter 1.2.
- 3. D — 370.** To round 365 to the nearest ten, look at the ones digit: 5. Since 5 or higher rounds up, 365 rounds up to 370. The midpoint between 360 and 370 is 365 itself — and the convention is to round 5 up, confirming the rounding decision (Chapter 1.5).
- 4. B — 175 m.** Subtract the distance already swum from the total:  $300 - 125 = 175$  m. Ones:  $0 < 5$ , regroup.  $10 - 5 = 5$ . Tens:  $9 - 2 = 7$ . Hundreds:  $2 - 1 = 1$ . The team has 175 metres left to swim. Estimation check:  $300 - 125 \approx 175$  ✓ (Chapter 3.3).
- 5. D — 6 boxes.** Divide the total cans by the box size:  $48 \div 8 = 6$  boxes. This is grouping division — separating 48 cans into boxes of 8 produces 6 boxes. The related multiplication:  $6 \times 8 = 48$  confirms the answer (Chapter 4.4).
- 6. A — 2/4.** Mateo and his sister ate 2 slices total ( $1 + 1 = 2$ ), so  $4 - 2 = 2$  slices are left. The fraction representing the leftover is  $2/4$ . Note that  $2/4$  simplifies to  $1/2$ , but at Grade 3 the curriculum accepts  $2/4$  as a direct count of slices remaining over total slices (Chapter 2.1).
- 7. C — 350.** Skip count by 50s starting from 100: 100 is the start, then 150 (1st), 200 (2nd), 250 (3rd), 300 (4th), 350 (5th). The fifth number said after 100 is 350. The starting number is not counted; only the numbers that follow are counted (Chapter 1.6).
- 8. B — \$5.55.** Change = amount paid – price =  $\$20.00 - \$14.45$ . Using counting-up: from  $\$14.45$ , add  $55¢$  to reach  $\$15.00$ , then add  $\$5.00$  to reach  $\$20.00$ . Total change:  $\$5.55$ . Estimation check:  $\$20 - \$14 = \$6$ , close to  $\$5.55$  (Chapter 5.3).
- 9. A —  $6 + 6 + 6 + 6$ .** Multiplication  $4 \times 6$  means "four groups of six," which equals  $6 + 6 + 6 + 6 = 24$ . The repeated-addition form is the exact equivalent of multiplication. The other options ( $4 + 6 = 10$ ; 46 as a number;  $4 + 4 + 4 + 4 = 16$ ) all produce different values (Chapter 4.1).
- 10. C — 4/6.** The thirds-and-sixths family of equivalent fractions:  $2/3 = 4/6$ . Splitting each third into two smaller equal pieces produces sixths, and 4 of those sixths equal  $2/3$ . Verify:  $2 \times 2 = 4$  and  $3 \times 2 = 6$ , giving  $4/6$ . The other options ( $2/6$ ,  $3/2$ ,  $2/9$ ) all represent different amounts (Chapter 2.4).
- 11. B —  $>$ .** Compute both sides:  $7 \times 8 = 56$  and  $9 \times 6 = 54$ . Since  $56 > 54$ , the left side is greater. The "greater than" symbol ( $>$ ) opens toward the larger number on the right. Always compute both sides of a comparison before selecting the symbol (Chapter 7.3).

**12. D — 179.** Count the base-ten blocks: 1 hundred-flat = 100; 7 ten-rods = 70; 9 unit-cubes = 9. Total:  $100 + 70 + 9 = 179$ . Always count hundreds first, then tens, then ones. The place-value composition: 1 hundred + 7 tens + 9 ones = 179 (Chapter 1.3).

**13. A — \$8.40.** Add Jaden's money: 6 loonies = \$6.00; 8 quarters = \$2.00; 4 dimes = \$0.40. Total:  $\$6.00 + \$2.00 + \$0.40 = \$8.40$ . Sort coins from largest to smallest denomination before adding to reduce counting errors (Chapter 5.2).

**14. C — 10.** Division  $80 \div 8$  asks "8 times what equals 80?" From the 8 times table:  $8 \times 10 = 80$ , so  $80 \div 8 = 10$ . The related multiplication confirms the quotient:  $10 \times 8 = 80 \checkmark$  (Chapter 4.4).

**15. C — 125.** The pattern decreases by 25 each step: 200, 175, 150, 125, 100, 75. To verify:  $175 - 150 = 25$ ,  $100 - 75 = 25$ , all consistent. The missing term between 150 and 100 is  $150 - 25 = 125$ . This is a shrinking pattern with constant negative growth (Chapter 6.2).

**16. B — Start at 3 and add 3 each time.** The pattern values are 3, 6, 9, 12, 15, 18 — each term is 3 more than the previous (the 3 times table). Differences:  $6 - 3 = 3$ ,  $9 - 6 = 3$ , all consistent. A complete pattern rule names both the starting value and the operation (Chapter 6.3).

**17. A — 65.** Solve  $n - 27 = 38$  using the inverse operation:  $n = 38 + 27 = 65$ . Check by substituting:  $65 - 27 = 38 \checkmark$ . The inverse of subtraction is addition. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

**18. C — 40.** Trace the code: the loop adds 5 six times. Starting at 10:  $10 \rightarrow 15 \rightarrow 20 \rightarrow 25 \rightarrow 30 \rightarrow 35 \rightarrow 40$ . Or compute directly:  $6 \times 5 = 30$  added to 10 gives 40. Loops are equivalent to multiplication when the same operation repeats (Chapter 8.2).

**19. B** — The correct answer is B. Compute both sides:  $36 \div 9 = 4$  and  $8 \div 2 = 4$ . Since both sides equal 4, this equation is TRUE. Option A ( $11 \times 2 = 11 + 2$ ) is false because  $22 \neq 13$ . Option C ( $16 + 8 = 16 \times 8$ ) is false because  $24 \neq 128$ . Option D ( $50 - 25 = 5 \times 10$ ) is false because  $25 \neq 50$ . This tests understanding that an equation is true when both sides have equal value.

**20. B — 8 rows.** Divide the total books by the books per row:  $64 \div 8 = 8$  rows. This is grouping division — separating 64 books into rows of 8 produces 8 rows. The related multiplication:  $8 \times 8 = 64$  confirms the answer (Chapter 4.4).

**21. D — Dog.** Read the bar graph values: Cat = 8, Dog = 12, Hamster = 3, Fish = 5. The tallest bar represents the most students, which is Dog with 12. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

**22. A — 35 leaves.** Read the pictograph: Class 3A's row has 7 leaf icons. The key states each icon = 5 leaves, so multiply:  $7 \times 5 = 35$  leaves. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

- 23. B — 9.** Add all values:  $7 + 13 + 9 + 5 + 11 = 45$ . Divide by the number of values:  $45 \div 5 = 9$ . The mean is 9, representing the typical value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).
- 24. D — 14.** Count how many times each value appears: 14 appears 4 times; 9 appears 2 times; 7 and 12 each appear once. The value that appears most often is 14. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).
- 25. A — Equally likely to landing on blue and green combined.** The spinner has 2 red sections + 1 blue + 1 green = 4 total. Red has 2 chances; blue + green together also have 2 chances (1 + 1). So landing on red is equally likely to landing on blue OR green combined. The other options misidentify the comparison (Chapter 10.4).
- 26. D — 40 students.** Add the frequencies for all four games:  $14 + 6 + 9 + 11 = 40$  students. The total represents every student surveyed. Always verify by adding all rows in the frequency column carefully (Chapter 9.3).
- 27. B — Impossible.** A 0% chance means the event will definitely NOT happen — there is no possibility of it occurring. On the Grade 3 probability spectrum, 0% is described as "impossible." The other options describe different probability levels that don't fit (Chapter 10.4).
- 28. D — 9 students.** From Figure PQ-2: Dog = 12 students, Hamster = 3 students. Subtract:  $12 - 3 = 9$  students. The phrase "how many more" signals subtraction — finding the difference between two known values. This is a Level-2 graph-reading task from Chapter 10.3.
- 29. A — 110 cans.** Add the cans donated each day:  $23 + 17 + 31 + 14 + 25 = 110$  cans. Verify sequentially:  $23 + 17 = 40$ ;  $40 + 31 = 71$ ;  $71 + 14 = 85$ ;  $85 + 25 = 110$ . Multi-row table summations require careful sequential addition (Chapter 9.3).
- 30. C — Equally likely to drawing blue.** The bag has 5 red marbles and 5 blue marbles — the same number of each colour. Each colour has the same chance of being drawn. "Equally likely" describes outcomes with identical probability — typically a 50/50 split (Chapter 10.4).
- 31. A — 4 faces.** A triangular pyramid (tetrahedron) has 4 faces: 1 triangular base + 3 triangular side faces that meet at the apex. From the Chapter 11.2 reference table: triangular pyramid = 4 faces, 6 edges, 4 vertices. All four faces are triangles, making the tetrahedron the simplest 3D shape with flat faces.
- 32. B — Triangular prism.** A triangular prism has 2 triangular bases + 3 rectangular side faces, with 6 vertices (3 on top + 3 on bottom) and 9 edges (3 on each triangle + 3 vertical edges connecting them). From the Chapter 11.2 reference table: triangular prism = 5 faces, 9 edges, 6 vertices (Chapter 11.1).
- 33. C — 32 cm.** A square has 4 equal sides. Perimeter =  $4 \times \text{side length} = 4 \times 8 = 32$  cm. Or add all four sides:  $8 + 8 + 8 + 8 = 32$  cm. Squares are a special case of rectangles where length = width, so the perimeter shortcut  $4 \times \text{side}$  works perfectly (Chapter 13.2).

**34. B — North.** Track each turn: facing east, a quarter-turn to the right rotates clockwise from east to south. Then a half-turn from south rotates  $180^\circ$  to north. Final direction: north. Two-step turn sequences require updating the facing direction after each individual turn (Chapter 12.3).

**35. C — Millilitres.** A teaspoon holds about 5 millilitres — firmly in the millilitre range. Litres are far too large (a 1-litre teaspoon would be unusable); grams measure mass, not capacity; kilograms also measure mass. Only millilitres is appropriate for the small capacity of a teaspoon (Chapter 13.4).

**36. A — 4:30.** The hour hand sits between the 4 and the 5, closer to the 4 — so the hour is 4 (the smaller of the two numbers it sits between). The minute hand points to the 6, which equals 30 minutes past the hour ( $6 \times 5 = 30$ ). The time is 4:30, or "half past four" (Chapter 14.1).

**37. B — 1 hour 45 minutes.** From 11:40 AM to 12:40 PM is 1 hour. From 12:40 PM to 1:25 PM is 45 minutes (12:40 to 1:00 is 20 minutes; 1:00 to 1:25 is 25 minutes;  $20 + 25 = 45$ ). Total elapsed time: 1 hour + 45 minutes = 1 hour 45 minutes. Crossing both the noon boundary and the next hour requires careful tracking (Chapter 14.3).

**38. D — 48 square centimetres.** The rectangle is 6 cm wide and 8 cm tall. Area = length  $\times$  width =  $6 \times 8 = 48$  square centimetres. Or count the unit squares: 6 columns  $\times$  8 rows = 48 squares. Area is measured in square units ( $\text{cm}^2$ ) — the small "2" must be included (Chapter 14.5).

**39. C — 4 juice boxes.** The relationship: 1 litre = 1,000 millilitres. Divide:  $1,000 \div 250 = 4$ . So 4 juice boxes of 250 mL each fill exactly 1 litre. Verify:  $4 \times 250 = 1,000 \text{ mL} = 1 \text{ L}$  ✓ (Chapter 13.4).

**40. B — 48 cm.** A regular octagon has 8 equal sides. Perimeter =  $8 \times$  side length =  $8 \times 6 = 48$  cm. Or add all eight sides:  $6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 48$  cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).