

# PRACTICE EXAM 11: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

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## STAGE 1 — Questions 1–10

1. A zoo has 348 animals in the African exhibit and 256 animals in the Asian exhibit. How many animals are in the two exhibits combined?

- A. 604
- B. 92
- C. 504
- D. 594

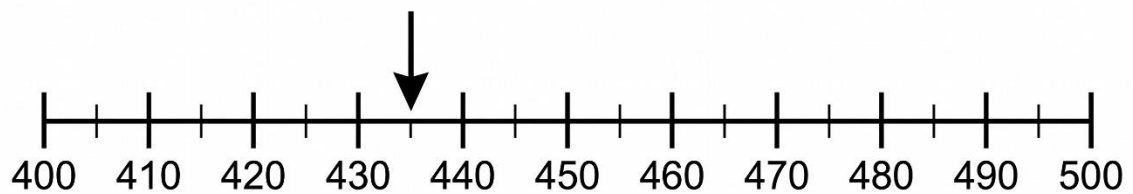
2. What number is shown in expanded form as  $500 + 60 + 2$ ?

- A. 5,062
- B. 526
- C. 5,602
- D. 562

3. Round the number 749 to the nearest hundred.

- A. 800
- B. 740
- C. 700
- D. 750

4. Look at the number line below. What number is marked by the arrow?



- A. 430
- B. 435
- C. 440
- D. 445

5. A dance class has 30 students. They are divided into 5 equal groups for a routine. How many students are in each group?

- A. 5 students
- B. 25 students
- C. 35 students
- D. 6 students

6. A pizza is cut into 6 equal slices. Liam eats 1 slice, Sara eats 2 slices, and Eli eats 1 slice. What fraction of the pizza did the three children eat in total?

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

B.  $\frac{3}{6}$

C.  $\frac{4}{3}$

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

7. Skip count backward by 25 starting from 200. What is the third number you say?

A. 175

B. 150

C. 125

D. 100

8. Mateo buys a soccer ball for \$12.85. He pays with a \$20 bill. How much change does Mateo receive?

A. \$32.85

B. \$8.15

C. \$8.85

D. \$7.15

9. Which expression has the same value as  $8 \times 3$ ?

A.  $8 + 3$

B.  $3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$

C. 83

D.  $8 \times 8 \times 8$

10. Which fraction is equivalent to  $\frac{4}{8}$ ?

A.  $\frac{4}{16}$

B.  $\frac{8}{4}$

C.  $\frac{1}{2}$

D.  $\frac{4}{4}$

**STAGE 2 — Questions 11–20**

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

706 \_\_\_ 706

A.  $>$

B.

C.  $\neq$

D.  $=$

12. Aanya has 5 toonies, 2 loonies, 3 dimes, and 4 nickels. How much money does Aanya have in total?

A. \$12.50

B. \$12.30

C. \$12.70

D. \$13.50

13. A school had 875 textbooks. They donated 248 textbooks to another school. How many textbooks are left at the school?

A. 1,123

B. 627

C. 637

D. 727

14. What is  $70 \div 7$ ?

A. 70

B. 7

C. 10

D. 17

15. Find the missing number in this pattern: 13, 19, 25, \_\_\_\_, 37, 43.

A. 31

B. 30

C. 33

D. 29

16. What is the rule for this pattern: 4, 8, 16, 32, 64 ?

A. Start at 4 and add 4 each time

B. Start at 4 and add 8 each time

C. Start at 4 and add 16 each time

D. Start at 4 and double each time

17. Solve for  $n$  in the equation:  $9 + n = 56$ .

- A. 65
- B. 47
- C. 56
- D. 9

18. A character starts at 16. The character follows this code:

REPEAT 4 TIMES: Add 3.

What is the final value?

- A. 19
- B. 25
- C. 28
- D. 32

19. Which equation is FALSE?

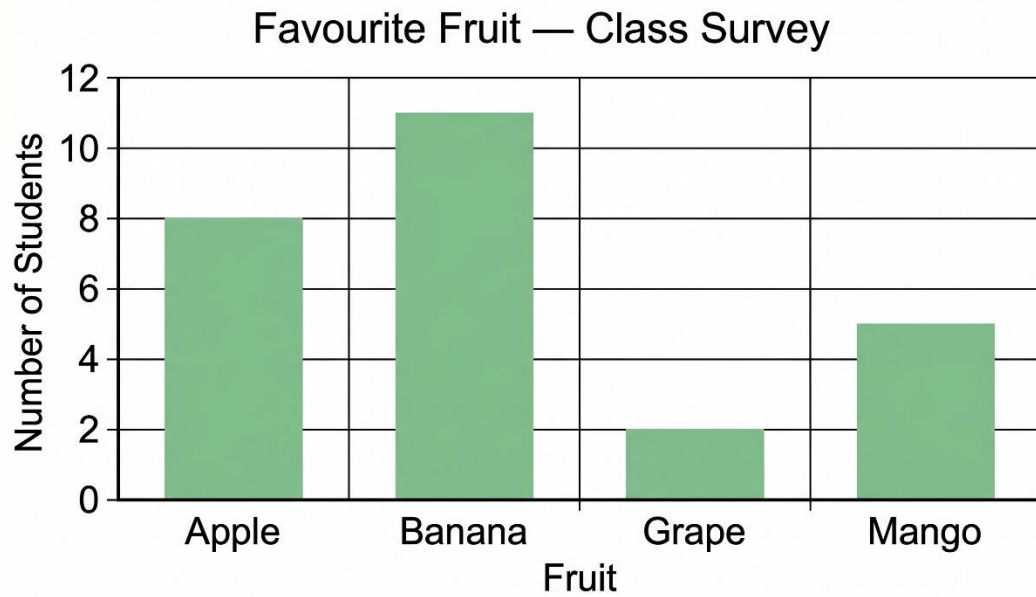
- A.  $12 \times 2 = 12 + 2$
- B.  $15 + 15 = 5 \times 6$
- C.  $9 + 7 = 7 + 9$
- D.  $36 \div 4 = 27 \div 3$

20. A school is buying 70 notebooks for a class. Notebooks come in packs of 8. How many packs does the school need to buy?

- A. 7 packs
- B. 8 packs
- C. 70 packs
- D. 9 packs

**STAGE 3 — Questions 21–30**

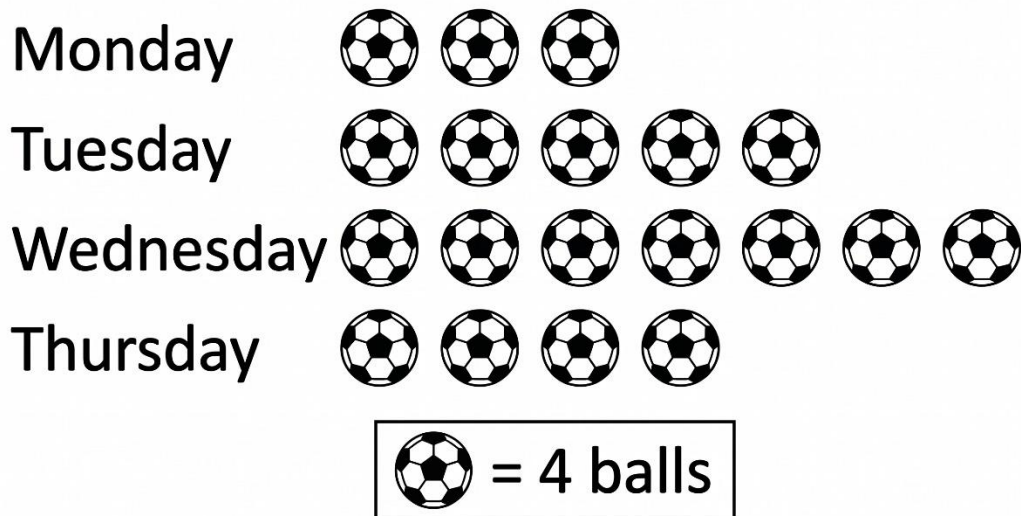
21. Look at the bar graph below. Which fruit was chosen by the fewest students?



- A. Apple
- B. Banana
- C. Grape
- D. Mango

22. Look at the pictograph below. Each ball icon stands for 4 balls used. How many balls did the soccer practice on Wednesday use?

## Soccer Balls Used at Practice



- A. 6 balls
- B. 24 balls
- C. 18 balls
- D. 30 balls

23. Find the mean of this data set: 10, 6, 14, 8, 12.

- A. 10
- B. 12
- C. 6
- D. 50

24. Find the mode of this data set: 3, 8, 3, 11, 8, 3, 5, 8, 3.

- A. 8
- B. 11
- C. 5

D. 3

25. A spinner has 10 equal sections. 1 is gold and 9 are silver. Landing on gold is:

A. Likely

B. Unlikely

C. Certain

D. Equally likely to landing on silver

26. Look at the frequency table below. How many students chose either soup or salad?

### Favourite Lunch Item

Item	Number of Students
Soup	6
Sandwich	12
Salad	9
Wrap	7

12 students

A.

B. 18 students

C. 15 students

D. 9 students

27. A bag of marbles contains 4 red, 4 blue, 4 green, and 4 yellow marbles. The probability of drawing a green marble compared to drawing a red marble is:

- A. Equally likely
- B. More likely
- C. Less likely
- D. Impossible

28. Look at the bar graph in Figure PQ-2 again. How many more students chose banana than mango?

- A. 11 students
- B. 16 students
- C. 5 students
- D. 6 students

29. The table below shows the number of items sold at a school garage sale on each of three Saturdays. What is the total number of items sold across all three Saturdays?

### Garage Sale — Items Sold.

<b>Saturday</b>	<b>Items Sold</b>
Saturday 1	47
Saturday 2	29
Saturday 3	38

A. 104 items

B. 114 items

C. 124 items

D. 134 items

30. A standard six-sided die is rolled once. What is the probability of rolling a number greater than 0?

A. Impossible

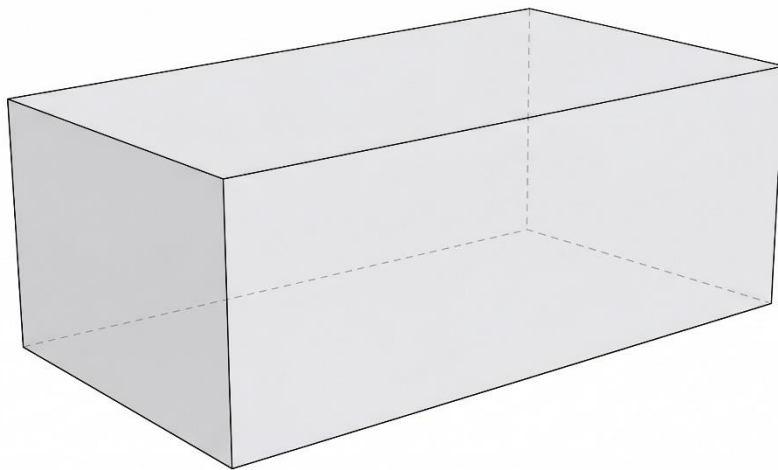
B. Unlikely

C. Certain

D. Equally likely

**STAGE 4 — Questions 31–40**

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



A. 6 vertices

- B. 8 vertices
- C. 10 vertices
- D. 12 vertices

32. Which 3D shape has no flat faces, no edges, and no vertices?

- A. Sphere
- B. Cone
- C. Cylinder
- D. Cube

33. A square has all 4 sides equal. If each side is 11 cm, what is its perimeter?

- A. 15 cm
- B. 22 cm
- C. 121 cm
- D. 44 cm

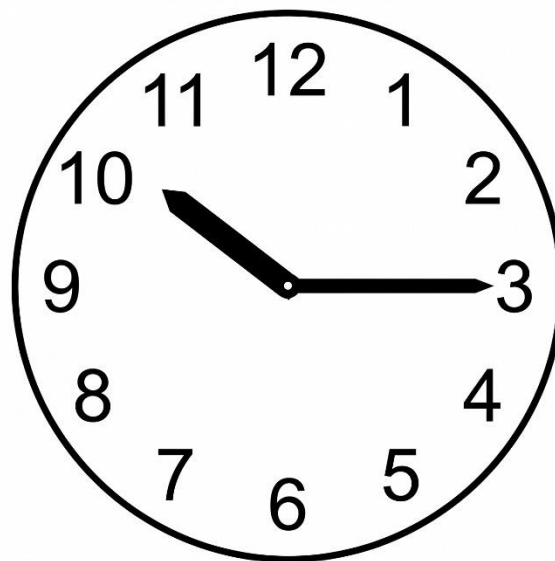
34. A character is facing south. The character makes a half-turn. Which direction is the character facing now?

- A. South
- B. East
- C. North
- D. West

35. Which unit is best for measuring the mass of a small paper clip?

- A. Grams
- B. Kilograms
- C. Litres
- D. Metres

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



- A. 3:50
- B. 10:15
- C. 10:03
- D. 11:15

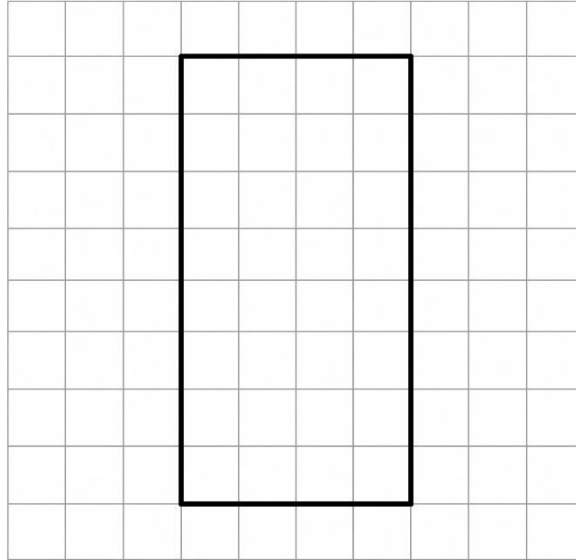
37. A community pool opens at 9:00 AM and closes at 5:30 PM the same day. For how many hours and minutes is the pool open?

- A. 7 hours 30 minutes
- B. 9 hours

C. 8 hours

D. 8 hours 30 minutes

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



A. 12 square centimetres

B. 24 square centimetres

C. 32 square centimetres

D. 40 square centimetres

39. A length of fabric is 6 metres long. How many centimetres is that?

A. 600 cm

B. 60 cm

C. 6,000 cm

D. 0.06 cm

40. A regular pentagon has 5 sides of equal length. If each side is 7 cm, what is the perimeter?
- A. 12 cm
  - B. 35 cm
  - C. 25 cm
  - D. 49 cm

## Practice Exam 11: Answer Key and Explanations

- 1. A — 604.** Add using the standard algorithm:  $348 + 256 = 604$ . Ones:  $8 + 6 = 14$  (write 4, carry 1). Tens:  $1 + 4 + 5 = 10$  (write 0, carry 1). Hundreds:  $1 + 3 + 2 = 6$ . Estimation check:  $350 + 260 = 610$ , close to 604. This tests addition with regrouping in two places (curriculum expectation B2.5).
- 2. D — 562.** Expanded form  $500 + 60 + 2$  represents 5 hundreds + 6 tens + 2 ones, which combines to 562. Read place-value parts left to right: the hundreds (500), the tens (60), and the ones (2). Translating between expanded and standard form is a core place-value skill from Chapter 1.1.
- 3. C — 700.** To round 749 to the nearest hundred, look at the digit in the tens place: 4. Since 4 is less than 5, round down. The number 749 rounds down to 700. The midpoint between 700 and 800 is 750, and 749 is just before that midpoint — confirming the rounding decision (Chapter 1.5).
- 4. B — 435.** Read the number line: the labelled tick marks 430 and 440 are 10 apart. The arrow points exactly halfway between them, so the value at the arrow is  $430 + 5 = 435$ . Always identify two labelled tick marks the arrow falls between, then use the spacing to estimate the value (Chapter 1.4).
- 5. D — 6 students.** Divide the total students by the number of groups:  $30 \div 5 = 6$  students per group. This is sharing division — distributing 30 students equally into 5 groups. The related multiplication:  $6 \times 5 = 30$  confirms the answer (Chapter 4.4).
- 6. A — 4/6.** Liam ate 1 slice, Sara ate 2, and Eli ate 1, so  $1 + 2 + 1 = 4$  slices were eaten total. The pizza has 6 equal slices, so  $4/6$  of the pizza was eaten. Always add the individual portions first, then express the result as a fraction over the whole (Chapter 2.1).
- 7. C — 125.** Skip count backward by 25 from 200: 200 is the start, then 175 (1st), 150 (2nd), 125 (3rd). The third number said after 200 is 125. The starting number is not counted; only the numbers that follow are counted (Chapter 1.6).
- 8. D — \$7.15.** Change = amount paid – price =  $\$20.00 - \$12.85$ . Using counting-up: from  $\$12.85$ , add  $15¢$  to reach  $\$13.00$ , then add  $\$7.00$  to reach  $\$20.00$ . Total change:  $\$7.15$ . Estimation check:  $\$20 - \$13 = \$7$ , close to  $\$7.15$  (Chapter 5.3).

**9. B —  $3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$ .** Multiplication  $8 \times 3$  means "eight groups of three," which equals eight 3s added together = 24. The repeated-addition form is the exact equivalent of multiplication. The other options ( $8 + 3 = 11$ ; 83 as a number;  $8 \times 8 \times 8 = 512$ ) all produce different values (Chapter 4.1).

**10. C —  $1/2$ .** The halves family of equivalent fractions:  $4/8 = 1/2$ . Four eighths is exactly half of a whole, since 4 is half of 8. Verify:  $4 \div 4 = 1$  and  $8 \div 4 = 2$ , giving  $1/2$ . The other options ( $4/16$ ,  $8/4$ ,  $4/4$ ) all represent different amounts (Chapter 2.3).

**11. D —  $=$ .** The two numbers 706 and 706 are identical. When two numbers have the same digits in the same places, they have the same value, so the correct symbol is the equals sign. The equals sign means "has the same value as" — even when two expressions look identical, the equals sign is the correct comparison (Chapter 1.4).

**12. A — \$12.50.** Add Aanya's money: 5 toonies = \$10.00; 2 loonies = \$2.00; 3 dimes = \$0.30; 4 nickels = \$0.20. Total:  $\$10.00 + \$2.00 + \$0.30 + \$0.20 = \$12.50$ . Sort coins from largest to smallest denomination before adding to reduce counting errors (Chapter 5.2).

**13. B — 627.** Subtract using the standard algorithm:  $875 - 248 = 627$ . Ones:  $5 < 8$ , regroup.  $15 - 8 = 7$ . Tens:  $6 - 4 = 2$ . Hundreds:  $8 - 2 = 6$ . Estimation check:  $875 - 250 = 625$ , close to 627. This tests subtraction with single regrouping in the ones place (Chapter 3.3).

**14. C — 10.** Division  $70 \div 7$  asks "7 times what equals 70?" From the 7 times table:  $7 \times 10 = 70$ , so  $70 \div 7 = 10$ . The related multiplication confirms the quotient. Division by 7 is beyond the basic Grade 3 fluency requirement but is approachable via the inverse-multiplication strategy (Chapter 4.2).

**15. A — 31.** The pattern increases by 6 each step: 13, 19, 25, 31, 37, 43. To verify:  $19 - 13 = 6$ ,  $25 - 19 = 6$ , all consistent. The missing term between 25 and 37 is  $25 + 6 = 31$ . Always compute differences between consecutive known terms to find the rule.

**16. D — Start at 4 and double each time.** The pattern values are 4, 8, 16, 32, 64 — each term is twice the previous ( $4 \times 2 = 8$ ,  $8 \times 2 = 16$ , etc.). This is a multiplicative pattern, not additive. The differences grow (4, 8, 16, 32), so the rule is "double" rather than "add a fixed amount" (Chapter 6.3).

**17. B — 47.** Solve  $9 + n = 56$  using the inverse operation:  $n = 56 - 9 = 47$ . Check by substituting:  $9 + 47 = 56$  ✓. The inverse of addition is subtraction. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

**18. C — 28.** Trace the code: the loop adds 3 four times. Step 1:  $16 + 3 = 19$ . Step 2:  $19 + 3 = 22$ . Step 3:  $22 + 3 = 25$ . Step 4:  $25 + 3 = 28$ . Or compute directly:  $4 \times 3 = 12$  added to 16 gives 28 (Chapter 8.2).

**19. A —  $12 \times 2 = 12 + 2$ .** Compute both sides:  $12 \times 2 = 24$  and  $12 + 2 = 14$ . Since  $24 \neq 14$ , this equation is FALSE. The other options are all true:  $15 + 15 = 30 = 5 \times 6$ ;  $9 + 7 = 16 = 7 + 9$ ;  $36 \div 4 = 9 = 27 \div 3$ . Multiplication and addition produce very different results (Chapter 7.2).

**20. D — 9 packs.** Divide:  $70 \div 8 = 8$  with 6 left over. Eight packs provide only 64 notebooks — not enough for 70 students. The school needs a ninth pack to cover the remaining 6 notebooks. This is a mathematical modelling problem where the real-world answer requires rounding up (Chapter 8.4).

**21. C — Grape.** Read the bar graph values: Apple = 8, Banana = 11, Grape = 2, Mango = 5. The shortest bar represents the fewest students, which is Grape with 2. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

**22. B — 24 balls.** Read the pictograph: Wednesday's row has 6 ball icons. The key states each icon = 4 balls, so multiply:  $6 \times 4 = 24$  balls. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

**23. A — 10.** Add all values:  $10 + 6 + 14 + 8 + 12 = 50$ . Divide by the number of values:  $50 \div 5 = 10$ . The mean is 10, representing the typical value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).

**24. D — 3.** Count how many times each value appears: 3 appears 4 times; 8 appears 3 times; 11 and 5 each appear once. The value that appears most often is 3. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

**25. B — Unlikely.** The spinner has 1 gold section out of 10 total. Just 1 of 10 sections is gold — far less than half. So landing on gold is unlikely (possible but improbable). The other options don't fit: "certain" would require all gold; "likely" would require more than half; "equally likely to silver" would require 5 each (Chapter 10.4).

**26. C — 15 students.** Read the frequency table: Soup = 6, Salad = 9. Add:  $6 + 9 = 15$  students. The phrase "either ... or" in this context means the total of both categories combined. Reading and combining frequency table values is a core data skill (Chapter 10.3).

**27. A — Equally likely.** The bag contains 4 marbles of each colour (4 red, 4 blue, 4 green, 4 yellow). Drawing green has the same chance as drawing red because both colours have the same number of marbles. "Equally likely" describes outcomes with identical probability (Chapter 10.4).

**28. D — 6 students.** From Figure PQ-2: Banana = 11 students, Mango = 5 students. Subtract:  $11 - 5 = 6$  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. B — 114 items.** Add the items sold across all three Saturdays:  $47 + 29 + 38 = 114$  items. Verify sequentially:  $47 + 29 = 76$ ;  $76 + 38 = 114$ . Multi-row table summations require careful sequential addition, with regrouping where needed (Chapter 9.3).

**30. C — Certain.** A standard six-sided die has faces 1, 2, 3, 4, 5, 6 — all greater than 0. Every possible roll results in a number greater than 0, so the event covers every possible outcome and must happen. "Certain" describes events with 100% probability (Chapter 10.4).

- 31. B — 8 vertices.** A rectangular prism has 8 vertices (corners) where three edges meet at each corner. From the Chapter 11.2 reference table: rectangular prism = 6 faces, 12 edges, 8 vertices. The 8 vertices are the eight corners of the prism — four on the top face plus four on the bottom face.
- 32. A — Sphere.** A sphere has no flat faces, no edges, and no vertices — it is one continuous curved surface. A cone has 1 flat face, 1 edge, and 1 vertex. A cylinder has 2 flat faces and 2 curved edges. A cube has 6 flat faces, 12 edges, and 8 vertices (Chapter 11.2).
- 33. D — 44 cm.** A square has 4 equal sides. Perimeter =  $4 \times \text{side length} = 4 \times 11 = 44$  cm. Or add all four sides:  $11 + 11 + 11 + 11 = 44$  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. C — North.** A half-turn rotates 180 degrees, reversing direction. Starting facing south, a half-turn produces facing north. South and north are opposite cardinal directions (Chapter 12.3). Half-turn =  $180^\circ =$  two quarter-turns combined.
- 35. A — Grams.** A small paper clip weighs roughly 1 gram — firmly in the gram range. Kilograms are too large (a 1 kg paper clip would weigh as much as 1,000 actual paper clips); litres measure capacity, not mass; metres measure length. Grams are appropriate for very small masses (Chapter 13.3).
- 36. B — 10:15.** The hour hand sits between the 10 and the 11, closer to the 10 — so the hour is 10 (the smaller of the two numbers it sits between). The minute hand points to the 3, which equals 15 minutes past the hour ( $3 \times 5 = 15$ ). The time is 10:15, or "quarter past ten" (Chapter 14.1).
- 37. D — 8 hours 30 minutes.** From 9:00 AM to 5:00 PM is 8 hours. From 5:00 PM to 5:30 PM is 30 more minutes. Total open time: 8 hours + 30 minutes = 8 hours 30 minutes. Break elapsed-time problems into whole hours plus remaining minutes, even when spanning AM to PM (Chapter 14.3).
- 38. C — 32 square centimetres.** The rectangle is 4 cm wide and 8 cm tall. Area = length  $\times$  width =  $4 \times 8 = 32$  square centimetres. Or count the unit squares: 4 columns  $\times$  8 rows = 32 squares. Area is measured in square units ( $\text{cm}^2$ ) — the small "2" must be included (Chapter 14.5).
- 39. A — 600 cm.** The relationship: 1 metre = 100 centimetres. So 6 metres =  $6 \times 100 = 600$  cm. The other options (60, 6,000, 0.06) represent different amounts. Always apply the conversion factor 100 when moving between metres and centimetres (Chapter 13.1).
- 40. B — 35 cm.** A regular pentagon has 5 equal sides. Perimeter =  $5 \times \text{side length} = 5 \times 7 = 35$  cm. Or add all five sides:  $7 + 7 + 7 + 7 + 7 = 35$  cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).