

PRACTICE EXAM 18: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

STAGE 1 — Questions 1–10

1. An aquarium had 538 visitors in the morning and 247 visitors in the afternoon. How many visitors came to the aquarium across both periods?

- A. 291
- B. 785
- C. 685
- D. 775

2. What is the value of the digit 8 in the number 384?

- A. 8
- B. 800
- C. 8,000
- D. 80

3. Round the number 247 to the nearest hundred.

- A. 300
- B. 250
- C. 200
- D. 240

4. A classroom has 6 art easels. Each easel holds 4 paint cups. How many paint cups are used in total when all easels are set up?

- A. 24 cups

- B. 10 cups
- C. 6 cups
- D. 4 cups

5. A pizza is cut into 10 equal slices. Mia eats 3 slices. What fraction of the pizza is left?

- A. $\frac{3}{10}$
- B. $\frac{10}{3}$
- C. $\frac{7}{10}$
- D. $\frac{7}{3}$

6. Skip count backward by 9s starting from 90. What is the third number you say?

- A. 81
- B. 72
- C. 9
- D. 63

7. A school cafeteria served 405 lunches on Monday. On Tuesday, they served 138 fewer lunches. How many lunches did they serve on Tuesday?

- A. 267
- B. 543
- C. 433
- D. 277

8. Which expression has the same value as 4×9 ?

- A. $4 + 9$
- B. $9 + 9 + 9 + 9$
- C. 49
- D. $4 \times 4 \times 9$

9. A family is on a 24-kilometre walk for charity. They have walked 16 kilometres so far. How many more kilometres do they need to walk?

- A. 40 km
- B. 16 km
- C. 24 km
- D. 8 km

10. Which fraction is equivalent to $\frac{2}{8}$?

- A. $\frac{2}{16}$
- B. $\frac{1}{4}$
- C. $\frac{8}{2}$
- D. $\frac{4}{8}$

STAGE 2 — Questions 11–20

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

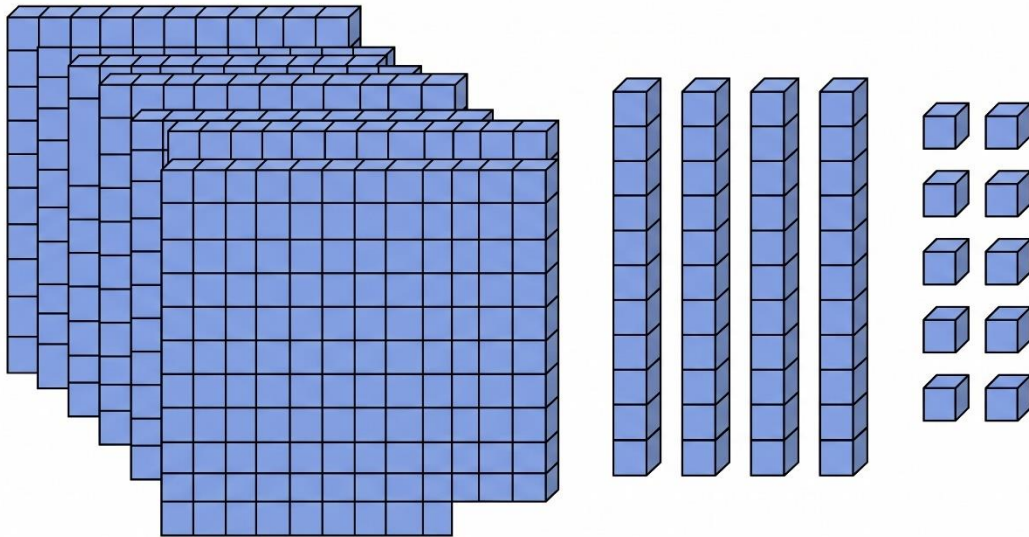
$$417 \text{ ___ } 471$$

- A. $>$
- B. $=$
- C. \geq
- D.

12. Sofia has 5 toonies, 6 loonies, 1 quarter, and 5 nickels. How much money does Sofia have in total?

- A. \$16.50
- B. \$15.50
- C. \$16.00
- D. \$17.25

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



- A. 459
- B. 945
- C. 549
- D. 594

14. What is $50 \div 5$?

- A. 5
- B. 10
- C. 50
- D. 45

15. Find the missing number in this pattern: 14, 24, 34, ____, 54, 64.

- A. 44
- B. 40
- C. 46
- D. 38

16. What is the rule for this pattern: 7, 14, 21, 28, 35, 42 ?

- A. Start at 7 and add 6 each time
- B. Start at 7 and multiply by 2 each time
- C. Start at 7 and subtract 7 each time
- D. Start at 7 and add 7 each time

17. Solve for n in the equation: $n + 28 = 65$.

- A. 93
- B. 37
- C. 27
- D. 65

18. A robot starts at 90. It follows this code:

Step 1: Subtract 25.

Step 2: Add 10.

Step 3: Subtract 15.

What is the final value?

- A. 50
- B. 70
- C. 60
- D. 40

19. Which equation is TRUE?

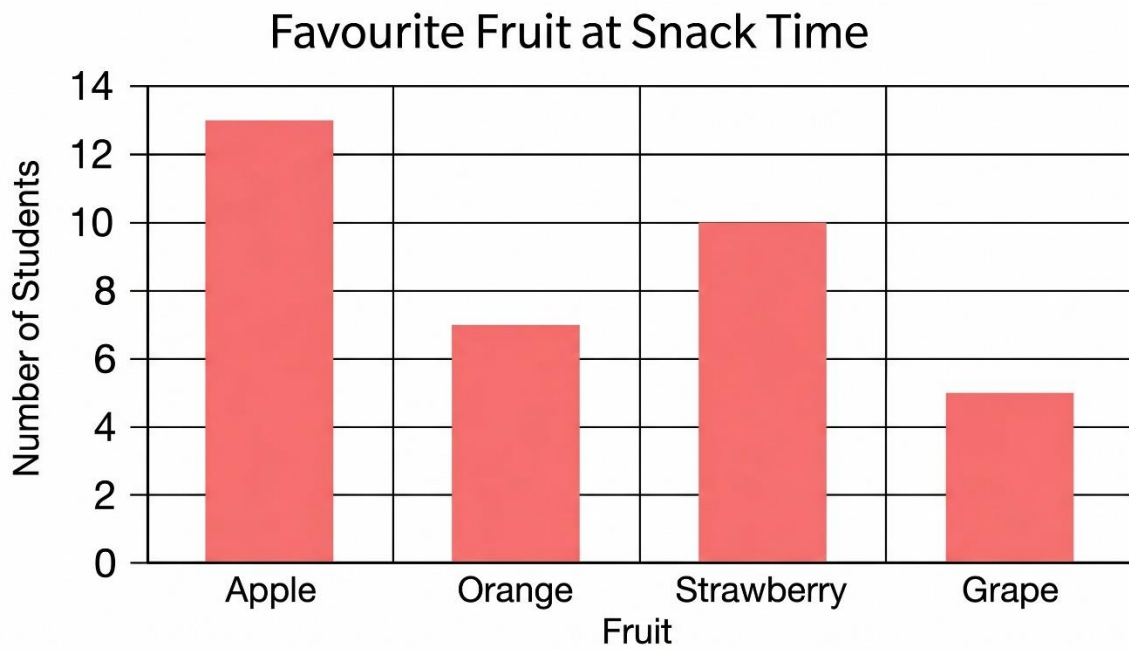
- A. $36 \div 4 = 27 \div 3$
- B. $12 \times 2 = 12 + 2$
- C. $8 + 7 = 8 \times 7$
- D. $100 - 50 = 5 \times 5$

20. A charity fun run is 5 kilometres long. If 20 runners each complete the full route, how many kilometres are run in total?

- A. 5 km
- B. 25 km
- C. 20 km
- D. 100 km

STAGE 3 — Questions 21–30

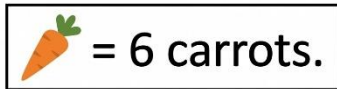
21. Look at the bar graph below. Which fruit was chosen by the most students?



- A. Apple
- B. Orange
- C. Strawberry
- D. Grape

22. Look at the pictograph below. Each carrot icon stands for 6 carrots harvested. How many carrots did the Garcia family harvest?

Carrots Harvested from the Vegetable Garden



- A. 13 carrots
- B. 24 carrots
- C. 42 carrots
- D. 30 carrots

23. Find the mean of this data set: 18, 12, 8, 16, 6.

- A. 8
- B. 16
- C. 18
- D. 12

24. Find the mode of this data set: 7, 11, 7, 14, 7, 11, 7, 9.

- A. 11
- B. 7
- C. 9
- D. 14

25. A bag has 1 yellow ball, 1 blue ball, 1 red ball, and 7 green balls. Drawing a green ball is:

- A. Impossible
- B. Unlikely
- C. Likely
- D. Certain

26. Look at the frequency table below. How many more students chose violin than flute?

School Orchestra — Instruments Chosen	
Instrument	Number of Students
Violin	15
Cello	8
Flute	6
Trumpet	9

- A. 9 students
- B. 6 students
- C. 15 students
- D. 21 students

27. A spinner has 4 equal sections — all 4 sections are purple. Landing on a colour other than purple is:

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

28. Look at the bar graph in Figure PQ-2 again. How many students chose either apple or grape as their favourite fruit?

- A. 13 students
- B. 18 students
- C. 5 students
- D. 23 students

29. The table below shows the number of medals won by each athlete at a swim meet. What is the total number of medals won by all 4 athletes?

Swim Meet — Medals Won

Athlete	Medals
Athlete 1	9
Athlete 2	13
Athlete 3	7
Athlete 4	11

- A. 35 medals
- B. 30 medals
- C. 40 medals
- D. 45 medals

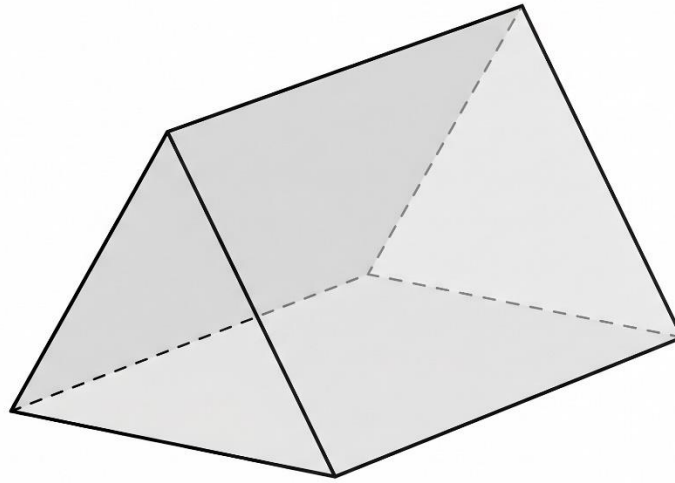
30. A standard six-sided die is rolled. What is the probability of rolling a 1, 2, 3, 4, 5, or 6?

- A. Impossible
- B. Certain

- C. Unlikely
- D. Equally likely

STAGE 4 — Questions 31–40

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



- A. 6 faces
- B. 9 faces
- C. 5 faces
- D. 4 faces

32. Which 3D shape has exactly 1 flat face and 1 vertex?

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

33. A rectangle has a length of 14 cm and a width of 6 cm. What is its perimeter?

- A. 20 cm
- B. 84 cm
- C. 28 cm
- D. 40 cm

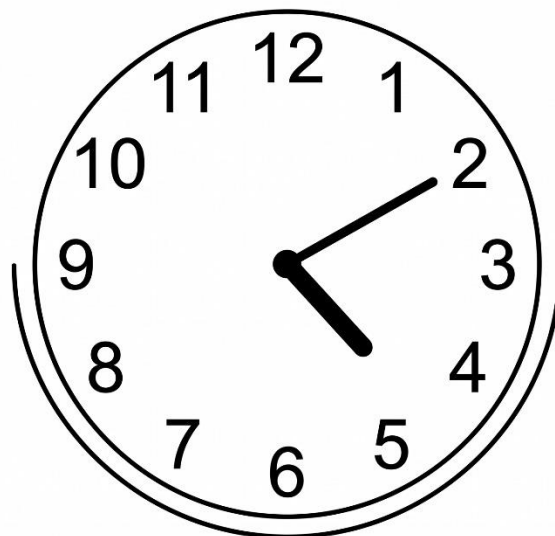
34. A character is facing east. The character makes one quarter-turn to the right. Which direction is the character facing now?

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

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

- A. Millilitres
- B. Centimetres
- C. Litres
- D. Kilograms

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

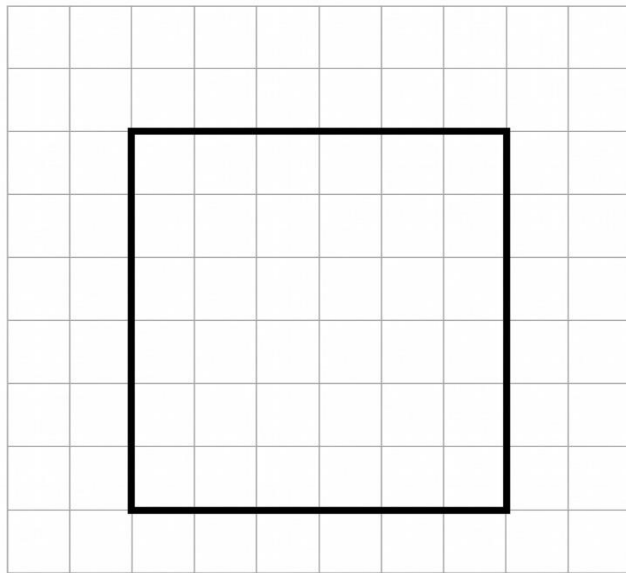


- A. 4:10
- B. 2:20
- C. 5:10
- D. 4:02

37. A music rehearsal starts at 3:50 PM and ends at 5:30 PM. How long is the rehearsal?

- A. 1 hour 20 minutes
- B. 2 hours
- C. 40 minutes
- D. 1 hour 40 minutes

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



- A. 11 square centimetres
- B. 28 square centimetres
- C. 22 square centimetres
- D. 36 square centimetres

39. A picnic cooler holds 8 litres of juice. How many millilitres is that?
- A. 8,000 mL
 - B. 800 mL
 - C. 80 mL
 - D. 80,000 mL
40. A regular triangle (equilateral) has 3 sides of equal length. If the perimeter is 27 cm, what is the length of one side?
- A. 24 cm
 - B. 30 cm
 - C. 9 cm
 - D. 13 cm

Practice Exam 18: Answer Key and Explanations

- 1. B — 785.** Add using the standard algorithm: $538 + 247 = 785$. Ones: $8 + 7 = 15$ (write 5, carry 1). Tens: $1 + 3 + 4 = 8$. Hundreds: $5 + 2 = 7$. Estimation check: $540 + 250 = 790$, close to 785. This tests addition with regrouping in the ones place only (curriculum expectation B2.5).
- 2. D — 80.** The digit 8 sits in the tens place of the number 384. Its value is $8 \times 10 = 80$. Always distinguish between the digit (8) and the digit's value (80) — same digit, different amount depending on position. This is a core place-value concept from Chapter 1.2.
- 3. C — 200.** To round 247 to the nearest hundred, look at the digit in the tens place: 4. Since 4 is less than 5, round down. The number 247 rounds down to 200. The midpoint between 200 and 300 is 250, and 247 is just before that midpoint — confirming the rounding decision (Chapter 1.5).
- 4. A — 24 cups.** Use the ratio $4 \text{ cups per easel} \times 6 \text{ easels} = 24 \text{ cups}$. This is a 1-to-4 scaling problem connecting Chapter 4 multiplication to a real-world setup. Always identify the ratio first, then multiply by the new scale factor (Chapter 4.6).
- 5. C — 7/10.** The pizza has 10 equal slices. Mia ate 3 slices, so $10 - 3 = 7$ slices are left. The fraction representing the leftover portion is $7/10$. Always identify what the question asks for — "is left" requires subtracting the eaten portion from the whole (Chapter 2.1).
- 6. D — 63.** Skip count backward by 9s from 90: 90 is the start, then 81 (1st), 72 (2nd), 63 (3rd). The third number said after 90 is 63. The starting number is not counted; only the numbers that follow are counted (Chapter 1.6).

7. A — 267. Subtract using the standard algorithm: $405 - 138 = 267$. Ones: $5 < 8$, regroup. Tens is 0, so regroup from hundreds. 4 hundreds becomes 3 hundreds, 0 tens becomes 10 tens, then 10 tens becomes 9 tens and ones becomes 15. Now: $15 - 8 = 7$, $9 - 3 = 6$, $3 - 1 = 2$. Regrouping across zeros is critical (Chapter 3.3).

8. B — $9 + 9 + 9 + 9$. Multiplication 4×9 means "four groups of nine," which equals $9 + 9 + 9 + 9 = 36$. The repeated-addition form is the exact equivalent of multiplication. The other options ($4 + 9 = 13$; 49 as a number; $4 \times 4 \times 9 = 144$) all produce different values (Chapter 4.1).

9. D — 8 km. Subtract the distance already walked from the total: $24 - 16 = 8$ km. Ones: $4 < 6$, regroup. $14 - 6 = 8$. Tens: $1 - 1 = 0$. The family has 8 kilometres left to walk. Estimation check: $24 - 16 = 8$ ✓ (Chapter 3.3).

10. B — $1/4$. The fourths-and-eighths family of equivalent fractions: $2/8 = 1/4$. Two eighths is exactly one quarter, since 2 is one-fourth of 8. Verify: $2 \div 2 = 1$ and $8 \div 2 = 4$, giving $1/4$. The other options ($2/16$, $8/2$, $4/8$) all represent different amounts (Chapter 2.3).

11. D — $<$. Compare 417 and 471 starting from the hundreds place: $4 = 4$ (tied). Move to the tens place: $1 < 7$, so 417 is less than 471. The "less than" symbol ($<$) opens toward the larger number on the right. Always compare place by place starting from the leftmost (Chapter 1.4).

12. A — \$16.50. Add Sofia's money: 5 toonies = \$10.00; 6 loonies = \$6.00; 1 quarter = \$0.25; 5 nickels = \$0.25. Total: $\$10.00 + \$6.00 + \$0.25 + \$0.25 = \$16.50$. Sort coins from largest to smallest denomination before adding to reduce counting errors (Chapter 5.2).

13. C — 549. Count the base-ten blocks: 5 hundred-flats = 500; 4 ten-rods = 40; 9 unit-cubes = 9. Total: $500 + 40 + 9 = 549$. Always count hundreds first, then tens, then ones. The place-value composition: 5 hundreds + 4 tens + 9 ones = 549 (Chapter 1.3).

14. B — 10. Division $50 \div 5$ asks "5 times what equals 50?" From the 5 times table: $5 \times 10 = 50$, so $50 \div 5 = 10$. The related multiplication confirms the quotient: $10 \times 5 = 50$ ✓ (Chapter 4.2).

15. A — 44. The pattern increases by 10 each step: 14, 24, 34, 44, 54, 64. To verify: $24 - 14 = 10$, $34 - 24 = 10$, all consistent. The missing term between 34 and 54 is $34 + 10 = 44$. Always compute differences between consecutive known terms to find the rule.

16. D — Start at 7 and add 7 each time. The pattern values are 7, 14, 21, 28, 35, 42 — each term is 7 more than the previous (the 7 times table). Differences: $14 - 7 = 7$, $21 - 14 = 7$, all consistent. A complete pattern rule names both the starting value and the operation (Chapter 6.3).

17. B — 37. Solve $n + 28 = 65$ using the inverse operation: $n = 65 - 28 = 37$. Check by substituting: $37 + 28 = 65$ ✓. The inverse of addition is subtraction. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

18. C — 60. Trace the code step by step: Start at 90. Step 1: $90 - 25 = 65$. Step 2: $65 + 10 = 75$. Step 3: $75 - 15 = 60$. Always write down the running value after each instruction rather than tracking mentally. This is a sequential code from Chapter 8.2.

19. A — $36 \div 4 = 27 \div 3$. Compute both sides: $36 \div 4 = 9$ and $27 \div 3 = 9$. Both sides equal 9, so the equation is TRUE. The other options are all false: $12 \times 2 = 24 \neq 14$; $8 + 7 = 15 \neq 56$; $100 - 50 = 50 \neq 25$. The equals sign requires both sides to have the same value (Chapter 7.2).

20. D — 100 km. Use the rate: $5 \text{ km per runner} \times 20 \text{ runners} = 100 \text{ km}$. This is a 1-to-5 scaling problem connecting multiplication to a real-world total distance. Always identify the per-unit value first, then multiply by the count (Chapter 4.6).

21. A — Apple. Read the bar graph values: Apple = 13, Orange = 7, Strawberry = 10, Grape = 5. The tallest bar represents the most students, which is Apple with 13. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

22. C — 42 carrots. Read the pictograph: the Garcia family row has 7 carrot icons. The key states each icon = 6 carrots, so multiply: $7 \times 6 = 42$ carrots. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

23. D — 12. Add all values: $18 + 12 + 8 + 16 + 6 = 60$. Divide by the number of values: $60 \div 5 = 12$. The mean is 12, representing the typical value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).

24. B — 7. Count how many times each value appears: 7 appears 4 times; 11 appears 2 times; 14 and 9 each appear once. The value that appears most often is 7. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

25. C — Likely. The bag contains 7 green balls out of 10 total ($1 + 1 + 1 + 7 = 10$). More than half the balls are green, so drawing green is likely (probable but not certain). The other options don't fit: "certain" would require all green; "impossible" would need zero green; "unlikely" would need less than half (Chapter 10.4).

26. A — 9 students. Read the frequency table: Violin = 15, Flute = 6. Subtract: $15 - 6 = 9$ students. The phrase "how many more" signals subtraction — finding the difference between two known values. Reading frequency tables and applying basic operations is a core data skill (Chapter 10.3).

27. D — Impossible. The spinner has 4 equal sections, and all 4 are purple. There are no other colours on the spinner, so landing on a non-purple colour cannot happen — it is impossible. "Impossible" describes events with zero chance of occurring (Chapter 10.4).

28. B — 18 students. From Figure PQ-2: Apple = 13 students, Grape = 5 students. Add: $13 + 5 = 18$ students. The phrase "either ... or" in this context means the total of both categories combined. This is a Level-2 graph-reading task from Chapter 10.3.

- 29. C — 40 medals.** Add the medals won by all 4 athletes: $9 + 13 + 7 + 11 = 40$ medals. Verify sequentially: $9 + 13 = 22$; $22 + 7 = 29$; $29 + 11 = 40$. Multi-row table summations require careful sequential addition (Chapter 9.3).
- 30. B — Certain.** A standard six-sided die has faces 1, 2, 3, 4, 5, 6 — these cover every possible outcome. The event "rolling a 1, 2, 3, 4, 5, or 6" must happen on every roll. "Certain" describes events with 100% probability of occurring (Chapter 10.4).
- 31. C — 5 faces.** A triangular prism has 5 faces total: 2 triangular bases (top and bottom) + 3 rectangular side faces. From the Chapter 11.2 reference table: triangular prism = 5 faces, 9 edges, 6 vertices.
- 32. A — Cone.** A cone has 1 flat face (the circular base) and 1 vertex (the apex at the top where the curved surface narrows to a point). A cylinder has 2 flat faces and no vertex. A sphere has no flat faces and no vertices. A cube has 6 flat faces and 8 vertices (Chapter 11.2).
- 33. D — 40 cm.** Perimeter of a rectangle = $2 \times (\text{length} + \text{width}) = 2 \times (14 + 6) = 2 \times 20 = 40$ cm. Or add all four sides: $14 + 6 + 14 + 6 = 40$ cm. The shortcut formula is faster than adding all sides individually (Chapter 13.2).
- 34. B — South.** A quarter-turn rotates 90 degrees. Starting facing east and turning right by 90° rotates clockwise to face south. The cardinal direction cycle clockwise: East \rightarrow South \rightarrow West \rightarrow North \rightarrow East. Always check whether the turn is left or right (Chapter 12.3).
- 35. C — Litres.** A kitchen sink holds roughly 20 to 40 litres of water — firmly in the litre range. Millilitres would produce unwieldy numbers (tens of thousands of mL); centimetres measure length; kilograms measure mass. Only litres is appropriate for the capacity of a kitchen sink (Chapter 13.4).
- 36. A — 4:10.** 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 2, which equals 10 minutes past the hour ($2 \times 5 = 10$). The time is 4:10 (Chapter 14.1).
- 37. D — 1 hour 40 minutes.** From 3:50 PM to 4:50 PM is 1 hour. From 4:50 PM to 5:30 PM is 40 minutes (4:50 to 5:00 is 10 minutes; 5:00 to 5:30 is 30 minutes; $10 + 30 = 40$). Total elapsed time: 1 hour + 40 minutes = 1 hour 40 minutes (Chapter 14.3).
- 38. B — 28 square centimetres.** The rectangle is 4 cm wide and 7 cm tall. Area = length \times width = $4 \times 7 = 28$ square centimetres. Or count the unit squares: 4 columns \times 7 rows = 28 squares. Area is measured in square units (cm^2) — the small "2" must be included (Chapter 14.5).
- 39. A — 8,000 mL.** The relationship: 1 litre = 1,000 millilitres. So 8 litres = $8 \times 1,000 = 8,000$ mL. The other options (800, 80, 80,000) represent different amounts. Always apply the conversion factor 1,000 when moving between litres and millilitres (Chapter 13.4).
- 40. C — 9 cm.** An equilateral triangle has 3 equal sides. Perimeter = $3 \times \text{side length}$, so side length = perimeter $\div 3 = 27 \div 3 = 9$ cm. Verify: $3 \times 9 = 27$ cm \checkmark . This is the reverse of the standard perimeter calculation — divide by the number of sides instead of multiplying (Chapter 13.2).

