

PRACTICE EXAM 22: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

STAGE 1 — Questions 1–10

1. A tropical fish store had 478 fish in its tanks. The store sold 156 fish over the weekend. How many fish are left in the tanks?

- A. 634
- B. 322
- C. 312
- D. 422

2. What is the value of the digit 5 in the number 539?

- A. 500
- B. 5
- C. 50
- D. 5,000

3. Round the number 671 to the nearest hundred.

- A. 600
- B. 670
- C. 700
- D. 680

4. A school spelling bee has 42 students. They are divided into equal teams of 7. How many teams are there?

- A. 42 teams

- B. 35 teams
- C. 8 teams
- D. 6 teams

5. A pizza is cut into 8 equal slices. Liam ate 3 slices. What fraction of the pizza is left?

- A. $\frac{3}{8}$
- B. $\frac{8}{3}$
- C. $\frac{5}{8}$
- D. $\frac{5}{3}$

6. Skip count by 8s starting from 24. What is the third number you say?

- A. 48
- B. 32
- C. 56
- D. 64

7. A farm harvested 256 pumpkins on Saturday and 189 pumpkins on Sunday. How many pumpkins did the farm harvest across both days?

- A. 67
- B. 335
- C. 425
- D. 445

8. Which expression has the same value as 9×3 ?

- A. $9 + 3$
- B. $3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$
- C. 93
- D. $9 + 9 + 3$

9. A bottle drive collected 96 bottles. The bottles were packed equally into 8 bags. How many bottles went into each bag?

- A. 12 bottles
- B. 88 bottles
- C. 104 bottles
- D. 8 bottles

10. Which fraction is equivalent to $\frac{5}{10}$?

- A. $\frac{5}{20}$
- B. $\frac{1}{2}$
- C. $\frac{10}{5}$
- D. $\frac{5}{15}$

STAGE 2 — Questions 11–20

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

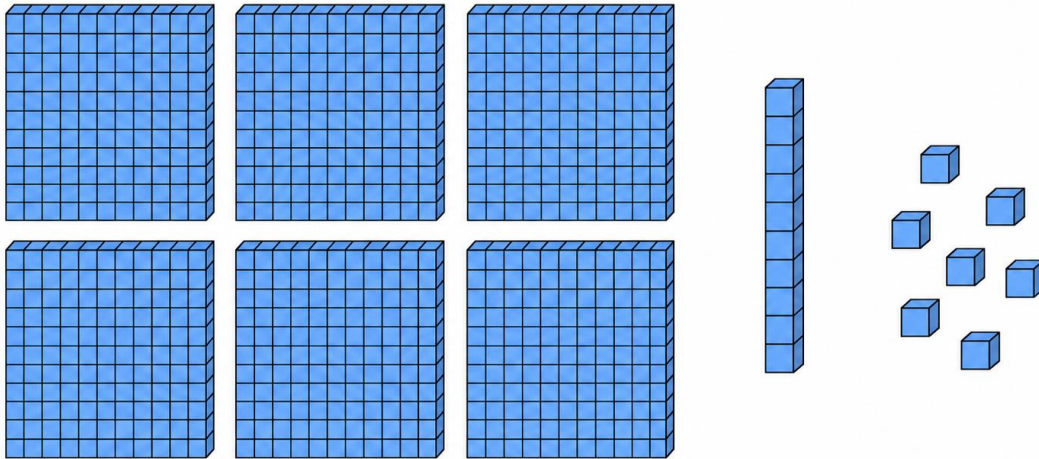
$$485 \text{ ___ } 458$$

- A.
- B. =
- C. >
- D. \leq

12. Hazel has 5 toonies, 4 loonies, 4 quarters, and 4 nickels. How much money does Hazel have in total?

- A. \$15.10**
- B. \$14.50**
- C. \$15.20**
- D. \$14.20**

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



- A. 716
- B. 671
- C. 167
- D. 617

14. What is $36 \div 6$?

- A. 36
- B. 6
- C. 30
- D. 42

15. Find the missing number in this pattern: 50, 45, 40, ____, 30, 25.

- A. 38

- B. 35
- C. 32
- D. 36

16. What is the rule for this pattern: 10, 20, 40, 80, 160 ?

- A. Start at 10 and double each time
- B. Start at 10 and add 10 each time
- C. Start at 10 and multiply by 4 each time
- D. Start at 10 and subtract 10 each time

17. Solve for n in the equation: $n - 23 = 41$.

- A. 18
- B. 23
- C. 41
- D. 64

18. A robot starts at 7. It follows this code:

REPEAT 5 TIMES: Add 4.

What is the final value?

- A. 35
- B. 20
- C. 27
- D. 11

19. Which equation is TRUE?

- A. $8 \times 3 = 8 + 3$
- B. $15 + 5 = 15 \times 5$
- C. $18 \div 3 = 12 \div 4$

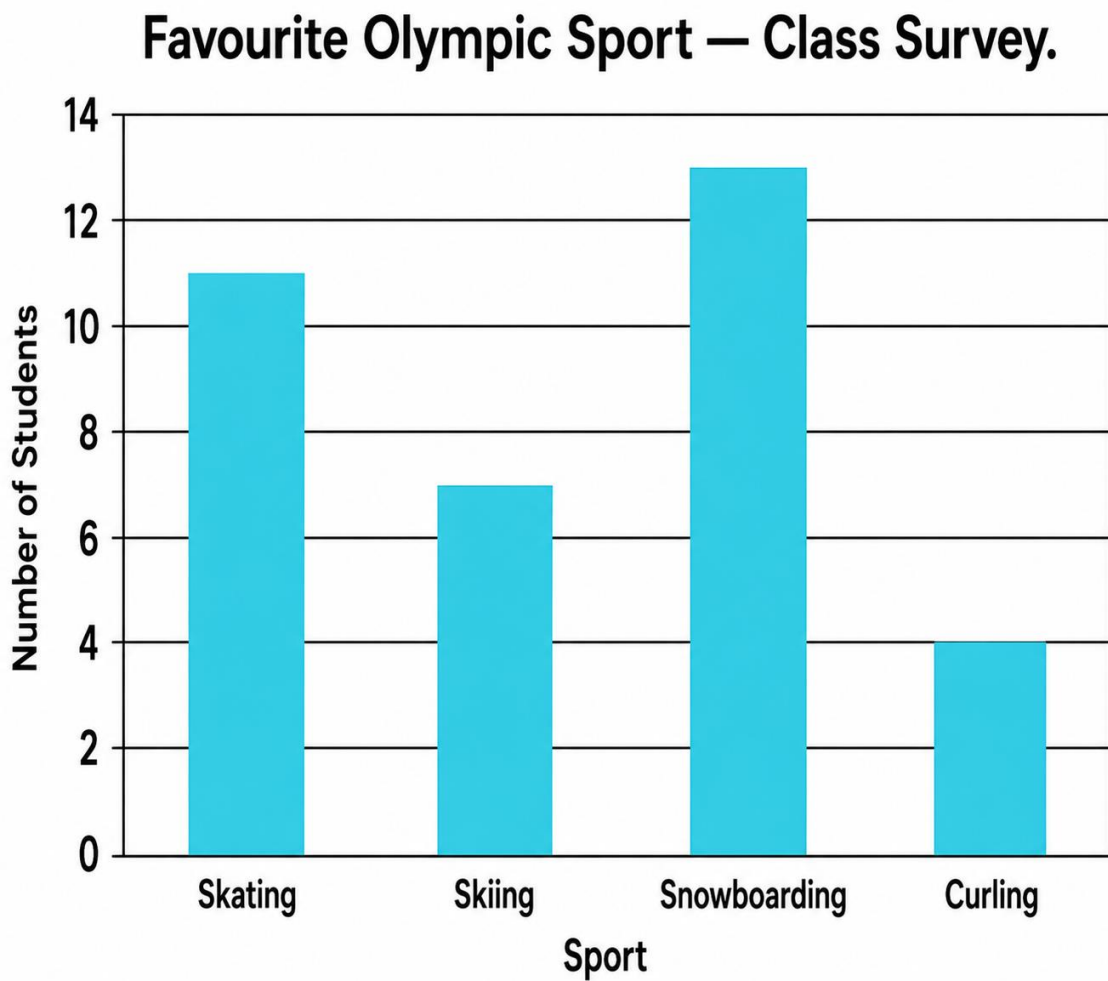
D. $40 \div 4 = 5 + 5$

20. A library has 90 books. They are sorted equally onto 9 shelves. How many books are on each shelf?

- A. 10 books
- B. 81 books
- C. 90 books
- D. 9 books

STAGE 3 — Questions 21–30





21. Look at the bar graph below. Which sport was chosen by exactly 4 students?




- A. Skating
- B. Skiing
- C. Curling
- D. Snowboarding

22. Look at the pictograph below. Each book icon stands for 5 books. How many books are in Section B?

Library Books by Section.

Section A	
Section B	
Section C	
Section D	

 = 5 books.

- A. 9 books
- B. 20 books
- C. 30 books
- D. 15 books

23. Find the mean of this data set: 4, 10, 6, 13, 12.

- A. 10
- B. 12
- C. 9
- D. 4

24. Find the mode of this data set: 8, 14, 8, 11, 8, 6, 8, 11.

- A. 8
- B. 11
- C. 14
- D. 6

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

- A. Impossible
- B. Certain
- C. Likely
- D. Equally likely to landing on each other colour

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

Favourite Indoor Game

Game	Number of Students
Chess	10
Checkers	8
Cards	14
Dominoes	6
Total	

- A. 32 students

- B. 38 students
- C. 42 students
- D. 36 students

27. A bag has 8 black candies and 2 white candies. Drawing a white candy is:

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

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

- A. 13 students
- B. 20 students
- C. 7 students
- D. 6 students

29. The table below shows the number of textbooks in each classroom. What is the total number of textbooks?

Textbook Inventory by Classroom.

Classroom	Textbooks
Room 1	27
Room 2	19
Room 3	33
Room 4	21

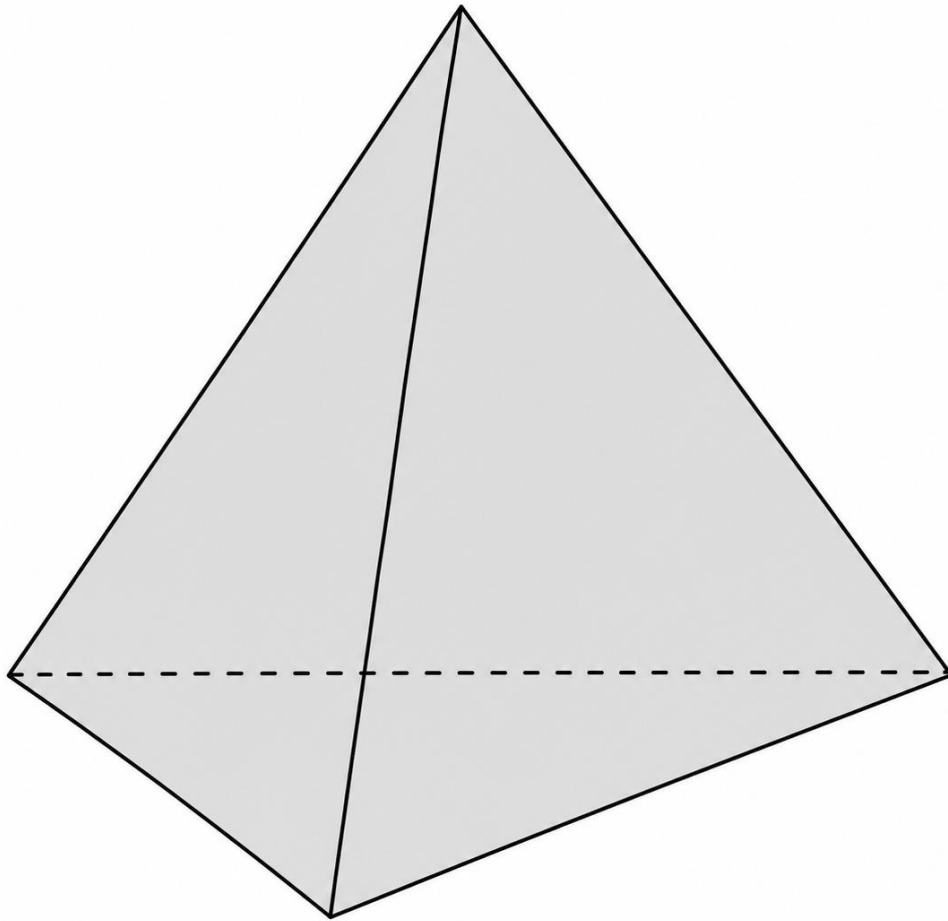
- A. 90 textbooks
- B. 110 textbooks
- C. 95 textbooks
- D. 100 textbooks

30. A weather forecast says there is a 50% chance of snow tomorrow. Snow tomorrow is:

- A. Likely
- B. Equally likely as no snow
- C. Impossible
- D. Certain

STAGE 4 — Questions 31–40

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



- A. 6 edges
- B. 4 edges
- C. 8 edges
- D. 12 edges

32. Which 3D shape has 6 faces, all of which are rectangles, with 3 pairs of identical faces of different sizes?

- A. Cube
- B. Triangular prism

- C. Rectangular prism
- D. Square pyramid

33. A square has all 4 sides equal. If each side is 6 cm, what is its perimeter?

- A. 12 cm
- B. 18 cm
- C. 36 cm
- D. 24 cm

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

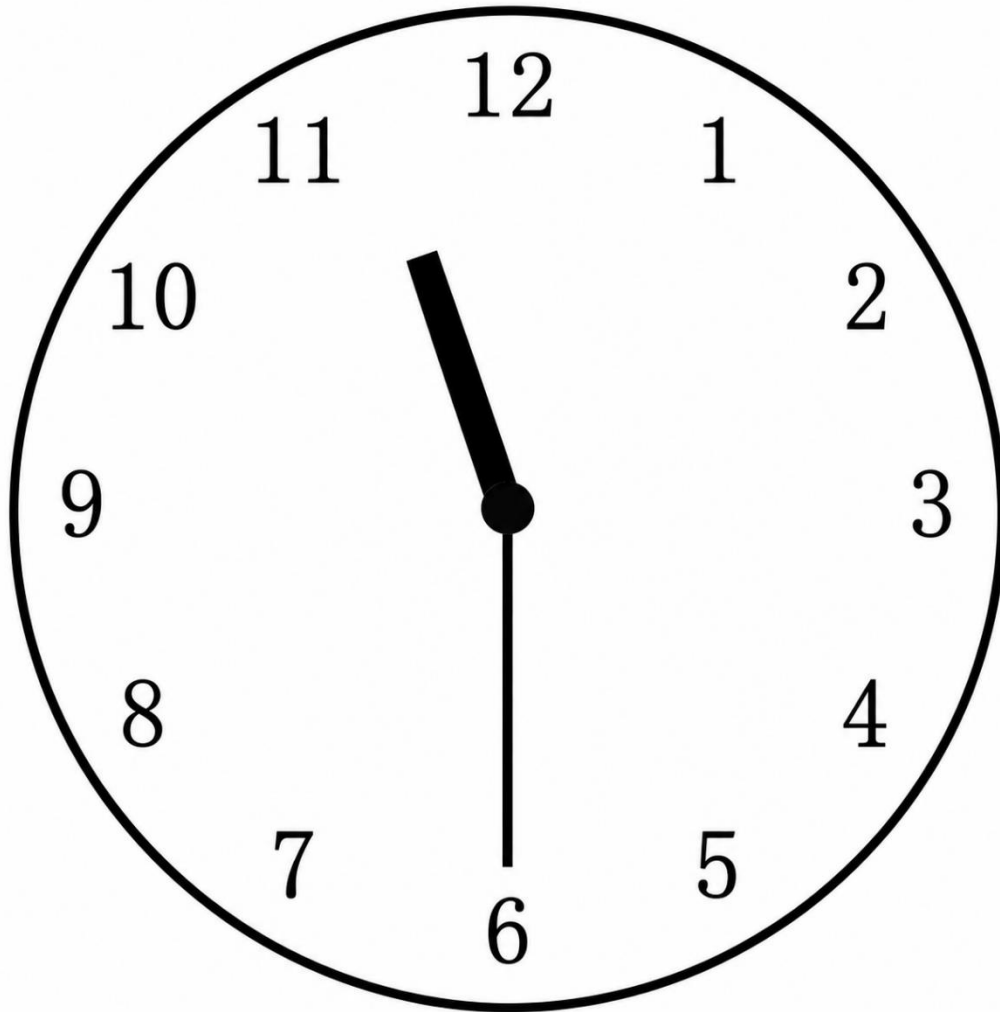
- A. North
- B. East
- C. West
- D. South

35. Which unit is best for measuring the mass of a textbook?

- A. Grams
- B. Kilometres
- C. Millimetres
- D. Litres

(Note: pre-assigned answer is A. A typical textbook weighs roughly 500–1,500 grams. This falls within the gram range. Verified ✓.)

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

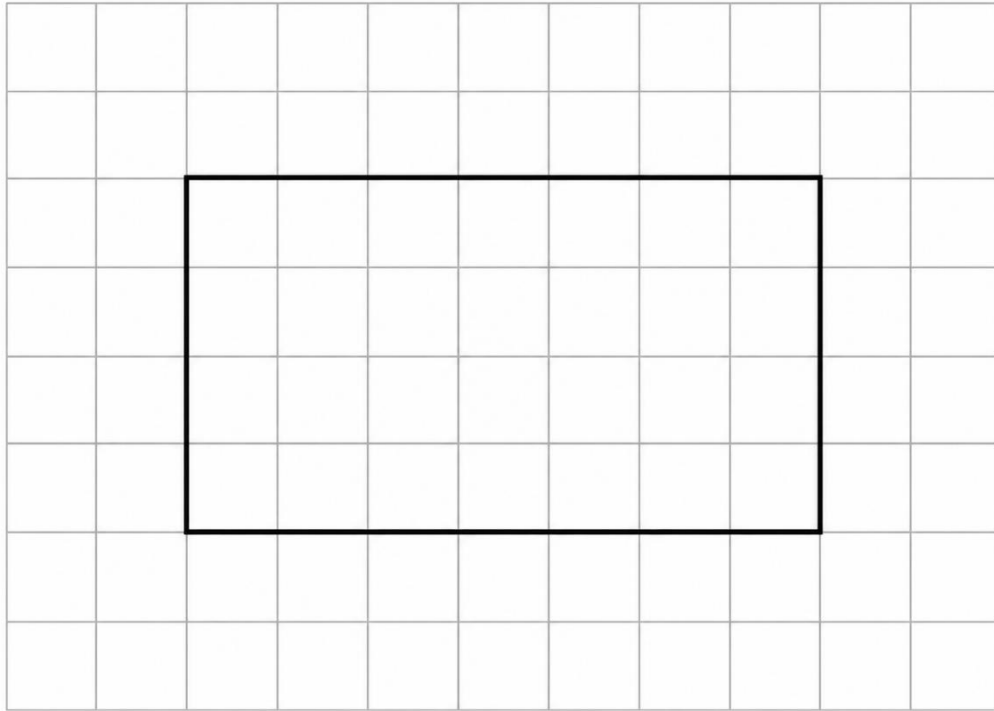


- A. 6:55
- B. 12:30
- C. 11:06
- D. 11:30

37. A school day starts at 9:25 AM and ends at 3:10 PM. How long is the school day?

- A. 5 hours
- B. 6 hours
- C. 5 hours 45 minutes
- D. 6 hours 45 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 pitcher holds 4 litres of lemonade. How many millilitres is that?

- A. 4,000 mL
- B. 400 mL
- C. 40 mL
- D. 40,000 mL

40. A regular pentagon has 5 sides of equal length. If each side is 9 cm, what is the perimeter?

- A. 14 cm
- B. 25 cm

C. 45 cm

D. 36 cm

Practice Exam 22: Answer Key and Explanations

1. B — 322. Subtract using the standard algorithm: $478 - 156 = 322$. Ones: $8 - 6 = 2$. Tens: $7 - 5 = 2$. Hundreds: $4 - 1 = 3$. Estimation check: $480 - 160 = 320$, close to 322. This tests subtraction without regrouping — the simplest standard-algorithm case (curriculum expectation B2.5).

2. A — 500. The digit 5 sits in the hundreds place of the number 539. Its value is $5 \times 100 = 500$. Always distinguish between the digit (5) and the digit's value (500) — same digit, different amount depending on position. This is a core place-value concept from Chapter 1.2.

3. C — 700. To round 671 to the nearest hundred, look at the digit in the tens place: 7. Since 7 is greater than 5, round up. The number 671 rounds up to 700. The midpoint between 600 and 700 is 650, and 671 is past that midpoint — confirming the rounding decision (Chapter 1.5).

4. D — 6 teams. Divide the total students by the team size: $42 \div 7 = 6$ teams. This is grouping division — separating 42 students into teams of 7 produces 6 teams. The related multiplication: $6 \times 7 = 42$ confirms the answer (Chapter 4.4).

5. C — 5/8. The pizza has 8 equal slices. Liam ate 3 slices, so $8 - 3 = 5$ slices are left. The fraction representing the leftover portion is $5/8$. Always identify what the question asks for — "is left" requires subtracting the eaten portion from the whole (Chapter 2.1).

6. A — 48. Skip count by 8s starting from 24: 24 is the start, then 32 (1st), 40 (2nd), 48 (3rd). The third number said after 24 is 48. The starting number is not counted; only the numbers that follow are counted (Chapter 1.6).

7. D — 445. Add using the standard algorithm: $256 + 189 = 445$. Ones: $6 + 9 = 15$ (write 5, carry 1). Tens: $1 + 5 + 8 = 14$ (write 4, carry 1). Hundreds: $1 + 2 + 1 = 4$. Estimation check: $260 + 190 = 450$, close to 445. This tests addition with regrouping in two places (Chapter 3.3).

8. B — $3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$. Multiplication 9×3 means "nine groups of three," which equals nine 3s added together = 27. The repeated-addition form is the exact equivalent of multiplication. The other options ($9 + 3 = 12$; 93 as a number; $9 + 9 + 3 = 21$) all produce different values (Chapter 4.1).

9. A — 12 bottles. Divide the total bottles by the number of bags: $96 \div 8 = 12$ bottles per bag. This is sharing division — distributing 96 bottles equally into 8 bags. The related multiplication: $12 \times 8 = 96$ confirms the answer (Chapter 4.4).

10. B — 1/2. The halves-and-tenths relationship: $5/10 = 1/2$. Five tenths is exactly half of a whole, since 5 is half of 10. Verify: $5 \div 5 = 1$ and $10 \div 5 = 2$, giving $1/2$. The other options ($5/20$, $10/5$, $5/15$) all represent different amounts (Chapter 2.3).

11. C — **>**. Compare 485 and 458 starting from the hundreds place: $4 = 4$ (tied). Move to the tens place: $8 > 5$, so 485 is greater than 458. The "greater than" symbol ($>$) opens toward the larger number on the right. Always compare place by place starting from the leftmost (Chapter 1.4).

12. C —. Add Hazel's money: 5 toonies = \$10.00; 4 loonies = \$4.00; 4 quarters = \$1.00; 4 nickels = \$0.20. Total: $\$10.00 + \$4.00 + \$1.00 + \$0.20 = \$15.20$. Option A (\$15.10) results from miscounting the nickels as 2 instead of 4 (\$0.10 instead of \$0.20). Option B (\$14.50) results from miscounting both the quarters and nickels. Option D (\$14.20) results from omitting the quarters entirely from the calculation.

13. D — **617**. Count the base-ten blocks: 6 hundred-flats = 600; 1 ten-rod = 10; 7 unit-cubes = 7. Total: $600 + 10 + 7 = 617$. Always count hundreds first, then tens, then ones. The place-value composition: 6 hundreds + 1 ten + 7 ones = 617 (Chapter 1.3).

14. B — **6**. Division $36 \div 6$ asks "6 times what equals 36?" From the 6 times table: $6 \times 6 = 36$, so $36 \div 6 = 6$. The related multiplication confirms the quotient: $6 \times 6 = 36 \checkmark$ (Chapter 4.2).

15. B — **35**. The pattern decreases by 5 each step: 50, 45, 40, 35, 30, 25. To verify: $45 - 40 = 5$, $40 - 35 = 5$, all consistent. The missing term between 40 and 30 is $40 - 5 = 35$. This is a shrinking pattern with constant negative growth (Chapter 6.2).

16. A — **Start at 10 and double each time**. The pattern values are 10, 20, 40, 80, 160 — each term is twice the previous ($10 \times 2 = 20$, $20 \times 2 = 40$, etc.). This is a multiplicative pattern, not additive. The differences grow (10, 20, 40, 80), so the rule is "double" rather than "add a fixed amount" (Chapter 6.3).

17. D — **64**. Solve $n - 23 = 41$ using the inverse operation: $n = 41 + 23 = 64$. Check by substituting: $64 - 23 = 41 \checkmark$. The inverse of subtraction is addition. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

18. C — **27**. Trace the code: the loop adds 4 five times. Starting at 7: $7 \rightarrow 11 \rightarrow 15 \rightarrow 19 \rightarrow 23 \rightarrow 27$. Or compute directly: $5 \times 4 = 20$ added to 7 gives 27. Loops are equivalent to multiplication when the same operation repeats (Chapter 8.2).

19. D — **$40 \div 4 = 5 + 5$** . Compute both sides: $40 \div 4 = 10$ and $5 + 5 = 10$. Both sides equal 10, so the equation is TRUE. The other options are all false: $8 \times 3 = 24 \neq 11$; $15 + 5 = 20 \neq 75$; $18 \div 3 = 6 \neq 3$. Note: the original option D (" $40 - 20 = 40 \div 20$ ") was false; the corrected option D (" $40 \div 4 = 5 + 5$ ") is true (Chapter 7.2).

20. A — **10 books**. Divide the total books by the number of shelves: $90 \div 9 = 10$ books per shelf. This is sharing division — distributing 90 books equally into 9 shelves. The related multiplication: $10 \times 9 = 90$ confirms the answer (Chapter 4.4).

21. C — **Curling**. Read the bar graph values: Skating = 11, Skiing = 7, Snowboarding = 13, Curling = 4. The bar that reaches exactly 4 is Curling. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

22. B — 20 books. Read the pictograph: Section B's row has 4 book icons. The key states each icon = 5 books, so multiply: $4 \times 5 = 20$ books. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

23. C — 9. Add all values: $4 + 10 + 6 + 13 + 12 = 45$. 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. A — 8. Count how many times each value appears: 8 appears 4 times; 11 appears 2 times; 14 and 6 each appear once. The value that appears most often is 8. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

25. D — Equally likely to landing on each other colour. The spinner has 4 equal sections, one of each colour (red, blue, green, yellow). Each colour has the same chance of being landed on — a 1-in-4 chance per colour. "Equally likely" describes outcomes with identical probability (Chapter 10.4).

26. B — 38 students. Add the frequencies for all four games: $10 + 8 + 14 + 6 = 38$ students. The total represents every student surveyed. Always verify by adding all rows in the frequency column carefully (Chapter 9.3).

27. C — Unlikely. The bag has 2 white candies out of 10 total ($8 + 2 = 10$). Just 2 of 10 candies are white — far less than half. So drawing white is unlikely (possible but improbable). The other options don't fit: "certain" would require all white; "impossible" would need zero white; "likely" would need more than half (Chapter 10.4).

28. D — 6 students. From Figure PQ-2: Snowboarding = 13 students, Skiing = 7 students. Subtract: $13 - 7 = 6$ 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. D — 100 textbooks. Add the textbooks in all 4 classrooms: $27 + 19 + 33 + 21 = 100$ textbooks. Verify sequentially: $27 + 19 = 46$; $46 + 33 = 79$; $79 + 21 = 100$. Multi-row table summations require careful sequential addition (Chapter 9.3).

30. B — Equally likely as no snow. A 50% chance means snow has the same probability as no snow — both outcomes have an equal chance of occurring. On the Grade 3 probability spectrum, 50% is described as "equally likely." The other options describe different probability levels (Chapter 10.4).

31. A — 6 edges. A triangular pyramid (tetrahedron) has 6 edges: 3 around the triangular base + 3 edges rising from each base corner to the apex. From the Chapter 11.2 reference table: triangular pyramid = 4 faces, 6 edges, 4 vertices.

32. C — Rectangular prism. A rectangular prism has 6 rectangular faces, with 3 pairs of identical faces (front-back, top-bottom, left-right) typically of three different sizes. A cube has 6 square faces all the same size. A triangular prism has triangular and rectangular faces. A square pyramid has 1 square base plus 4 triangular faces (Chapter 11.1).

33. D — 24 cm. A square has 4 equal sides. Perimeter = $4 \times \text{side length} = 4 \times 6 = 24$ cm. Or add all four sides: $6 + 6 + 6 + 6 = 24$ 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 — East. A quarter-turn rotates 90 degrees. Starting facing north and turning right by 90° rotates clockwise to face east. The cardinal direction cycle clockwise: North \rightarrow East \rightarrow South \rightarrow West \rightarrow North. Always check whether the turn is left or right (Chapter 12.3).

35. A — Grams. A textbook weighs roughly 500–1,500 grams — firmly in the gram range. Kilometres and millimetres measure length, not mass; litres measure capacity. Grams are appropriate for masses of this scale; kilograms could also be used (1–1.5 kg) but grams gives a more precise reading at the textbook size (Chapter 13.3).

36. D — 11:30. The hour hand sits between the 11 and the 12, closer to the 11 — so the hour is 11 (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 11:30, or "half past eleven" (Chapter 14.1).

37. C — 5 hours 45 minutes. From 9:25 AM to 2:25 PM is 5 hours. From 2:25 PM to 3:10 PM is 45 minutes (2:25 to 3:00 is 35 minutes; 3:00 to 3:10 is 10 minutes; $35 + 10 = 45$). Total: 5 hours + 45 minutes = 5 hours 45 minutes. Crossing noon requires careful tracking (Chapter 14.3).

38. B — 28 square centimetres. The rectangle is 7 cm wide and 4 cm tall. Area = length \times width = $7 \times 4 = 28$ square centimetres. Or count the unit squares: 7 columns \times 4 rows = 28 squares. Area is measured in square units (cm^2) — the small "2" must be included (Chapter 14.5).

39. A — 4,000 mL. The relationship: 1 litre = 1,000 millilitres. So 4 litres = $4 \times 1,000 = 4,000$ mL. The other options (400, 40, 40,000) represent different amounts. Always apply the conversion factor 1,000 when moving between litres and millilitres (Chapter 13.4).

40. C — 45 cm. A regular pentagon has 5 equal sides. Perimeter = $5 \times \text{side length} = 5 \times 9 = 45$ cm. Or add all five sides: $9 + 9 + 9 + 9 + 9 = 45$ cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).