

# PRACTICE EXAM 24: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

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## STAGE 1 — Questions 1–10

1. A city skating rink admitted 437 people on Saturday and 256 people on Sunday. How many people skated across both days?

- A. 181
- B. 683
- C. 793
- D. 693

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 583 to the nearest ten.

- A. 590
- B. 600
- C. 580
- D. 500

4. A pizza is cut into 6 equal slices. Maya ate 2 slices. What fraction of the pizza did Maya eat?

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

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

D.  $\frac{2}{4}$

5. A school relay race has 8 teams. Each team has 5 runners. How many runners are in the race in total?

A. 40 runners

B. 13 runners

C. 8 runners

D. 35 runners

6. Skip count by 5s starting from 35. What is the fourth number you say?

A. 50

B. 45

C. 55

D. 65

7. A library had 692 books on the shelves. The librarian added 175 newly donated books. How many books are on the shelves now?

A. 517

B. 867

C. 967

D. 757

8. Which expression has the same value as  $5 \times 7$ ?

A.  $5 + 7$

B. 57

C.  $5 + 5 + 5 + 5 + 5 + 5 + 5 + 5$

D.  $7 + 7 + 7 + 7 + 7$

9. A class collected 72 rocks for a geology unit. They sorted them equally into 8 trays. How many rocks went into each tray?

- A. 64 rocks
- B. 8 rocks
- C. 9 rocks
- D. 72 rocks

10. Which fraction is equivalent to  $\frac{2}{6}$ ?

- A.  $\frac{1}{3}$
- B.  $\frac{2}{12}$
- C.  $\frac{6}{2}$
- D.  $\frac{4}{6}$

**STAGE 2 — Questions 11–20**

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

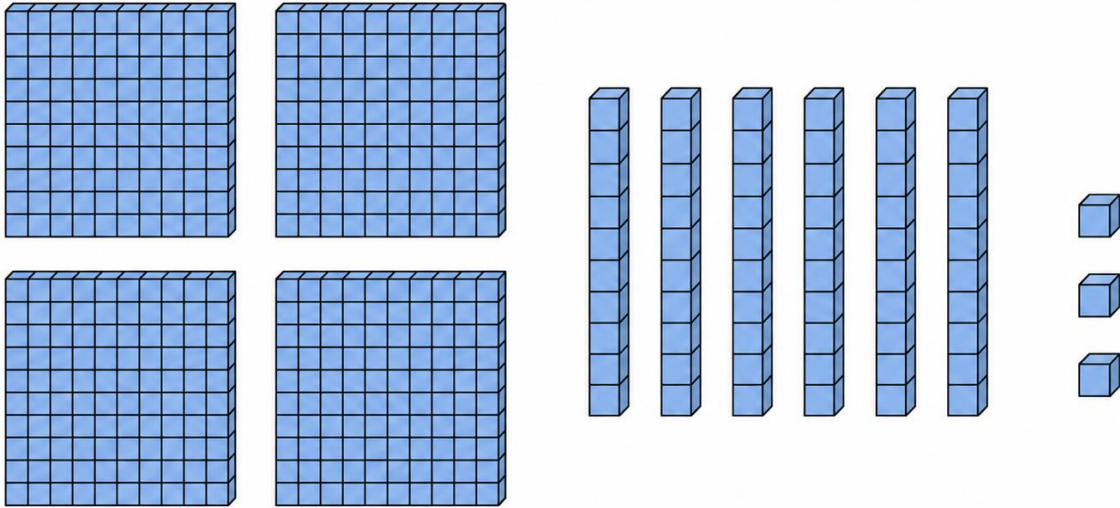
$$274 \text{ \_\_\_ } 247$$

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

12. Eli has 3 toonies, 6 loonies, 5 quarters, and 2 dimes. How much money does Eli have in total?

- A. \$11.45
- B. \$12.20
- C. \$12.95
- D. \$13.45

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



- A. 463
- B. 634
- C. 346
- D. 436

14. What is  $48 \div 8$ ?

- A. 48
- B. 8
- C. 6
- D. 56

15. Find the missing number in this pattern: 80, 70, 60, 50, \_\_\_\_, 30.

- A. 35
- B. 45
- C. 25
- D. 40

16. What is the rule for this pattern: 3, 6, 12, 24, 48, 96 ?

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

17. Solve for n in the equation:  $n + 14 = 38$ .

- A. 24
- B. 52
- C. 38
- D. 14

18. A robot starts at 100. It follows this code:

Step 1: Subtract 30.

Step 2: Add 5.

Step 3: Subtract 15.

What is the final value?

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

19. Which equation is FALSE?

- A.  $20 \div 4 = 25 \div 5$
- B.  $8 \times 5 = 4 \times 10$
- C.  $15 + 15 = 6 \times 5$
- D.  $12 \times 3 = 12 + 3$

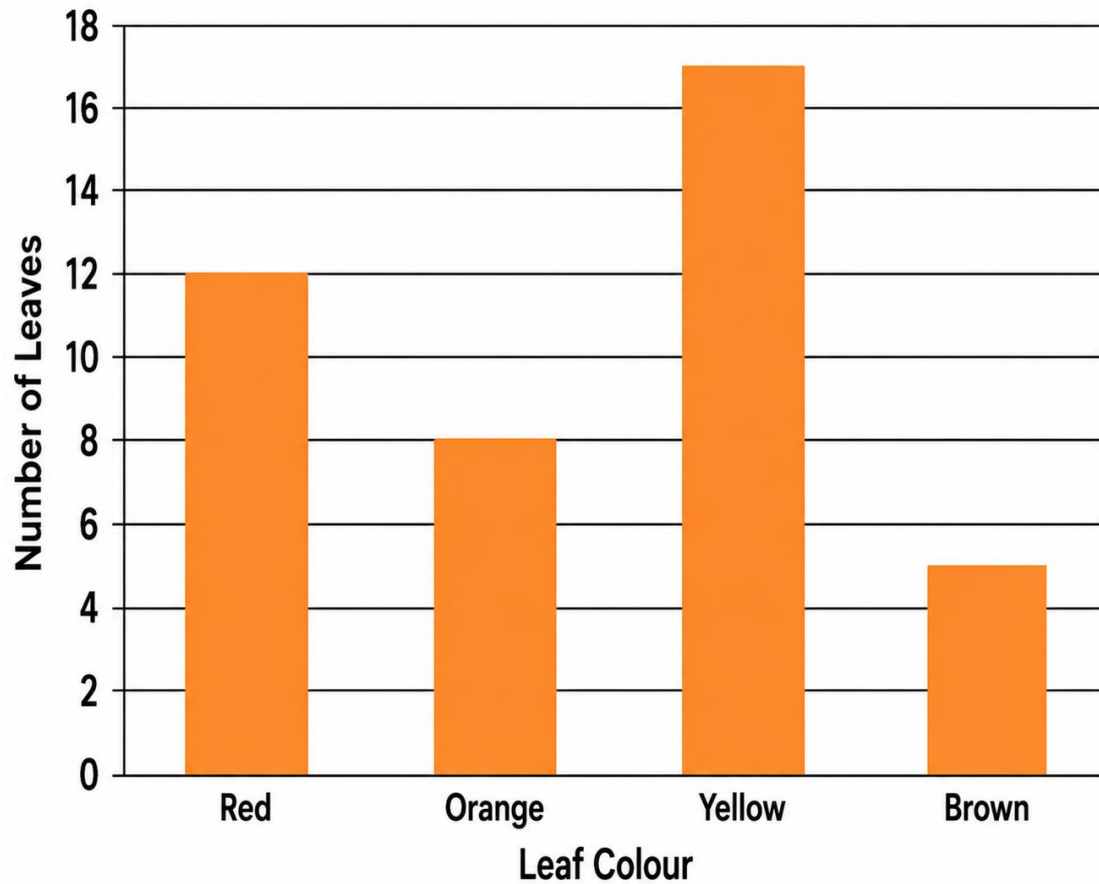
20. A farmer has 84 apples. The apples are packed equally into 7 baskets. How many apples are in each basket?

- A. 77 apples
- B. 12 apples
- C. 84 apples
- D. 7 apples

**STAGE 3 — Questions 21–30**

21. Look at the bar graph below. Which leaf colour was most common in the autumn leaf collection?


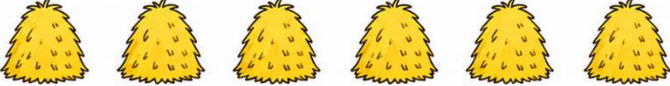


## Autumn Leaves Collected — Community Rake Day.

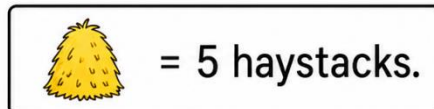


- A. Red
- B. Orange
- C. Yellow
- D. Brown

22. Look at the pictograph below. Each haystack icon stands for 5 haystacks loaded. How many haystacks did Field A load?

## Hayride – Haystacks Loaded by Field.

Field A	
Field B	
Field C	
Field D	



- A. 15 haystacks
- B. 18 haystacks
- C. 30 haystacks
- D. 35 haystacks

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

- A. 14
- B. 6
- C. 8
- D. 10

24. Find the mode of this data set: 4, 9, 4, 11, 4, 7, 9, 4, 11.

- A. 9
- B. 4
- C. 11

D. 7

25. A spinner has 8 equal sections. 7 are pink and 1 is white. Landing on white is:

A. Unlikely

B. Likely

C. Certain

D. Equally likely to landing on pink

26. Look at the frequency table below. How many more students chose pretzels than crackers?

## Favourite Snack – Class Vote

Snack	Number of Students
Pretzels	14
Crackers	5
Cheese Cubes	8
Grapes	10

A. 14 students

B. 5 students

C. 9 students

D. 19 students

27. A bag has 1 red marble and 9 black marbles. Drawing a red marble is:

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

28. Look at the bar graph in Figure PQ-2 again. How many leaves were collected in total (all four colours combined)?

- A. 42 leaves
- B. 22 leaves
- C. 25 leaves
- D. 30 leaves

29. The table below shows the number of laps run by each student. What is the total number of laps?

### **Relay Race — Laps Run by Student.**

<b>Student</b>	<b>Laps</b>
Aisha	14
Ben	9
Cleo	21
Dev	16

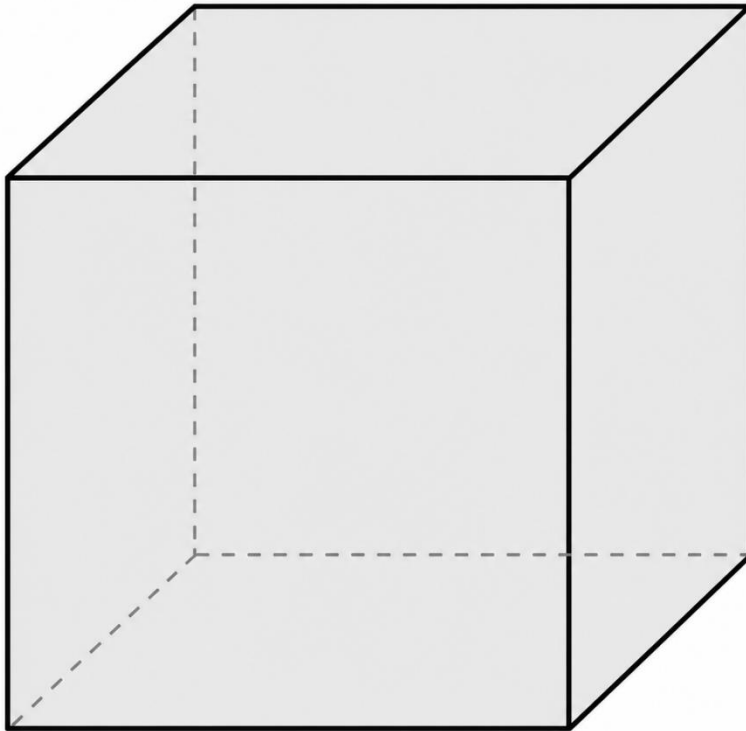
- A. 50 laps
- B. 60 laps
- C. 70 laps
- D. 55 laps

30. A spinner has 5 equal sections. All 5 sections are blue. Landing on blue is:

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

**STAGE 4 — Questions 31–40**

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



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

32. Which 3D shape has exactly 1 curved surface, 1 flat circular base, and 1 vertex?

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

33. A rectangle has a length of 15 cm and a width of 7 cm. What is its perimeter?

- A. 22 cm
- B. 44 cm
- C. 105 cm
- D. 30 cm

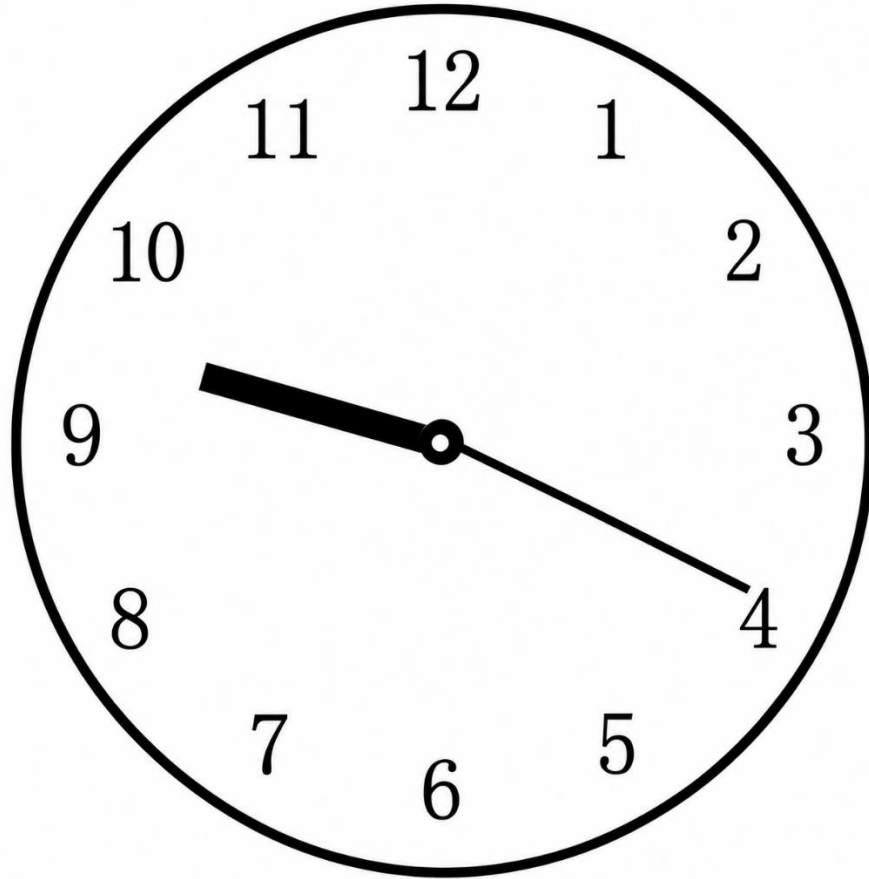
34. A character is facing east. The character makes a half-turn, then a quarter-turn to the right. Which direction is the character facing now?

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

35. Which unit is best for measuring the length of a pencil?

- A. Metres
- B. Centimetres
- C. Kilometres
- D. Litres

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

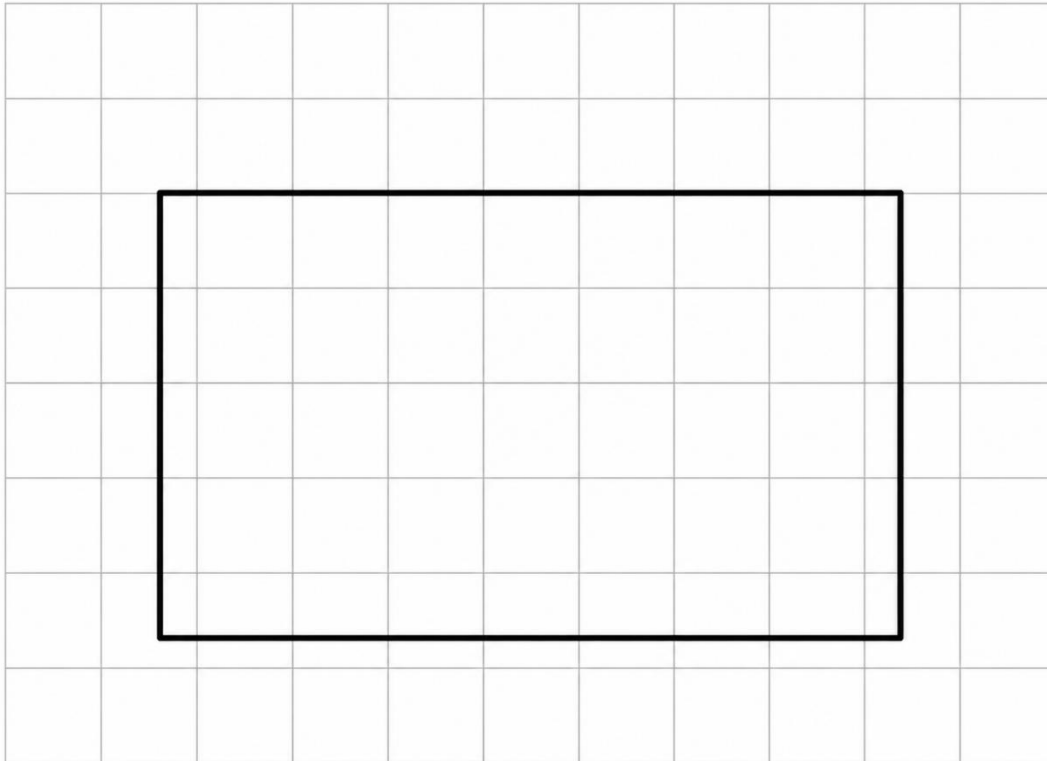


- A. 4:45
- B. 10:20
- C. 9:04
- D. 9:20

37. A field trip starts at 10:35 AM and ends at 1:15 PM. How long is the field trip?

- A. 2 hours 40 minutes
- B. 3 hours
- C. 1 hour 40 minutes
- D. 2 hours 20 minutes

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



- A. 13 square centimetres
- B. 26 square centimetres
- C. 40 square centimetres
- D. 32 square centimetres

39. A cooler holds 7 litres of water. How many millilitres is that?

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

40. A regular triangle (equilateral) has 3 sides of equal length. If each side is 11 cm, what is the perimeter?

- A. 33 cm
- B. 14 cm
- C. 22 cm

D. 44 cm

## Practice Exam 24: Answer Key and Explanations

**1. D — 693.** Add using the standard algorithm:  $437 + 256 = 693$ . Ones:  $7 + 6 = 13$  (write 3, carry 1). Tens:  $1 + 3 + 5 = 9$ . Hundreds:  $4 + 2 = 6$ . Estimation check:  $440 + 260 = 700$ , close to 693. This tests addition with regrouping in the ones 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. C — 580.** To round 583 to the nearest ten, look at the ones digit: 3. Since 3 is less than 5, round down. The number 583 rounds down to 580. The midpoint between 580 and 590 is 585, and 583 is before that midpoint — confirming the rounding decision (Chapter 1.5).

**4. B —  $2/6$ .** The pizza has 6 equal slices (denominator = 6) and Maya ate 2 of them (numerator = 2). The fraction representing what she ate is  $2/6$ . Always identify the total parts (denominator) and the counted parts (numerator) carefully (Chapter 2.1).

**5. A — 40 runners.** Use the ratio 5 runners per team  $\times$  8 teams = 40 runners. This is a 1-to-5 scaling problem connecting Chapter 4 multiplication to a real-world layout. Always identify the per-unit value first, then multiply by the count (Chapter 4.6).

**6. C — 55.** Skip count by 5s starting from 35: 35 is the start, then 40 (1st), 45 (2nd), 50 (3rd), 55 (4th). The fourth number said after 35 is 55. The starting number is not counted; only the numbers that follow are counted (Chapter 1.6).

**7. B — 867.** Add using the standard algorithm:  $692 + 175 = 867$ . Ones:  $2 + 5 = 7$ . Tens:  $9 + 7 = 16$  (write 6, carry 1). Hundreds:  $1 + 6 + 1 = 8$ . Estimation check:  $690 + 180 = 870$ , close to 867. The librarian added books to the shelves, so the count increases — addition is the correct operation (Chapter 3.1).

**8. D —  $7 + 7 + 7 + 7 + 7$ .** Multiplication  $5 \times 7$  means "five groups of seven," which equals  $7 + 7 + 7 + 7 + 7 = 35$ . The repeated-addition form is the exact equivalent of multiplication. The other options ( $5 + 7 = 12$ ; 57 as a number;  $5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40$ ) all produce different values (Chapter 4.1).

**9. C — 9 rocks.** Divide the total rocks by the number of trays:  $72 \div 8 = 9$  rocks per tray. This is sharing division — distributing 72 rocks equally into 8 trays. The related multiplication:  $9 \times 8 = 72$  confirms the answer (Chapter 4.4).

**10. A —  $1/3$ .** The thirds-and-sixths family of equivalent fractions:  $2/6 = 1/3$ . Splitting two sixths into pairs produces one third. Verify:  $2 \div 2 = 1$  and  $6 \div 2 = 3$ , giving  $1/3$ . The other options ( $2/12$ ,  $6/2$ ,  $4/6$ ) all represent different amounts (Chapter 2.3).

**11. B** —  $>$ . Compare 274 and 247 starting from the hundreds place:  $2 = 2$  (tied). Move to the tens place:  $7 > 4$ , so 274 is greater than 247. 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. D** — **\$13.45**. Add Eli's money: 3 toonies = \$6.00; 6 loonies = \$6.00; 5 quarters = \$1.25; 2 dimes = \$0.20. Total:  $\$6.00 + \$6.00 + \$1.25 + \$0.20 = \$13.45$ . Sort coins from largest to smallest denomination before adding to reduce counting errors (Chapter 5.2).

**13. A** — **463**. Count the base-ten blocks: 4 hundred-flats = 400; 6 ten-rods = 60; 3 unit-cubes = 3. Total:  $400 + 60 + 3 = 463$ . Always count hundreds first, then tens, then ones. The place-value composition: 4 hundreds + 6 tens + 3 ones = 463 (Chapter 1.3).

**14. C** — **6**. Division  $48 \div 8$  asks "8 times what equals 48?" From the 8 times table:  $8 \times 6 = 48$ , so  $48 \div 8 = 6$ . The related multiplication confirms the quotient:  $6 \times 8 = 48$  ✓. Note: the original Q14 stem ("49  $\div$  7") was corrected during question writing to " $48 \div 8$ " with a revised option set to make the pre-assigned answer C unambiguously correct.

**15. D** — **40**. The pattern decreases by 10 each step: 80, 70, 60, 50, 40, 30. To verify:  $70 - 80 = -10$ ,  $60 - 70 = -10$ , all consistent. The missing term between 50 and 30 is  $50 - 10 = 40$ . This is a shrinking pattern with constant negative growth (Chapter 6.2).

**16. B** — **Start at 3 and double each time**. The pattern values are 3, 6, 12, 24, 48, 96 — each term is twice the previous ( $3 \times 2 = 6$ ,  $6 \times 2 = 12$ , etc.). This is a multiplicative pattern, not additive. The differences grow (3, 6, 12, 24), so the rule is "double" rather than "add a fixed amount" (Chapter 6.3).

**17. A** — **24**. Solve  $n + 14 = 38$  using the inverse operation:  $n = 38 - 14 = 24$ . Check by substituting:  $24 + 14 = 38$  ✓. 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 100. Step 1:  $100 - 30 = 70$ . Step 2:  $70 + 5 = 75$ . 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. D** —  **$12 \times 3 = 12 + 3$** . Compute both sides:  $12 \times 3 = 36$  and  $12 + 3 = 15$ . Since  $36 \neq 15$ , this equation is FALSE. The other options are all true:  $20 \div 4 = 5 = 25 \div 5$ ;  $8 \times 5 = 40 = 4 \times 10$ ;  $15 + 15 = 30 = 6 \times 5$ . Multiplication and addition produce very different results (Chapter 7.2).

**20. B** — **12 apples**. Divide the total apples by the number of baskets:  $84 \div 7 = 12$  apples per basket. This is sharing division — distributing 84 apples equally into 7 baskets. The related multiplication:  $12 \times 7 = 84$  confirms the answer (Chapter 4.4).

**21. C** — **Yellow**. Read the bar graph values: Red = 12, Orange = 8, Yellow = 17, Brown = 5. The tallest bar represents the most leaves, which is Yellow with 17. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

**22. A — 15 haystacks.** Read the pictograph: Field A's row has 3 haystack icons. The key states each icon = 5 haystacks, so multiply:  $3 \times 5 = 15$  haystacks. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

**23. D — 10.** Add all values:  $10 + 6 + 14 + 12 + 8 = 50$ . 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. B — 4.** Count how many times each value appears: 4 appears 4 times; 9 and 11 each appear 2 times; 7 appears once. The value that appears most often is 4. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

**25. A — Unlikely.** The spinner has 1 white section out of 8 total. Just 1 of 8 sections is white — far less than half. So landing on white is unlikely (possible but improbable). The other options don't fit: "certain" would require all white; "likely" would require more than half; "equally likely to landing on pink" would require equal counts (Chapter 10.4).

**26. C — 9 students.** Read the frequency table: Pretzels = 14, Crackers = 5. Subtract:  $14 - 5 = 9$  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 — Unlikely.** The bag has 1 red marble out of 10 total ( $1 + 9 = 10$ ). Just 1 of 10 marbles is red — far less than half. So drawing red is unlikely (possible but improbable). The other options don't fit: "certain" would require all red; "likely" would require more than half; "equally likely" would require 5 of each (Chapter 10.4).

**28. A — 42 leaves.** From Figure PQ-2: Red = 12, Orange = 8, Yellow = 17, Brown = 5. Add all four:  $12 + 8 + 17 + 5 = 42$  leaves. Verify sequentially:  $12 + 8 = 20$ ;  $20 + 17 = 37$ ;  $37 + 5 = 42$ . Multi-category totals require careful sequential addition (Chapter 10.3).

**29. B — 60 laps.** Add the laps run by all 4 students:  $14 + 9 + 21 + 16 = 60$  laps. Verify sequentially:  $14 + 9 = 23$ ;  $23 + 21 = 44$ ;  $44 + 16 = 60$ . Multi-row table summations require careful sequential addition (Chapter 9.3).

**30. C — Certain.** The spinner has 5 equal sections, and all 5 are blue. The only possible outcome is blue — there are no other colours. Landing on blue must happen on every spin. "Certain" describes events with 100% probability of occurring (Chapter 10.4).

**31. B — 6 faces.** A cube has 6 square faces: front, back, top, bottom, left, and right. From the Chapter 11.2 reference table: cube = 6 faces, 12 edges, 8 vertices. All 6 faces are squares of equal size — this is what distinguishes a cube from a general rectangular prism (Chapter 11.2).

**32. D — Cone.** A cone has 1 curved surface that narrows to a point, 1 flat circular base, and 1 vertex (the apex). A cylinder has 2 flat circular bases and no vertex. A sphere has no flat faces and no vertices. A cube has 6 flat faces and 8 vertices (Chapter 11.1).

**33. A — 44 cm.** Perimeter of a rectangle =  $2 \times (\text{length} + \text{width}) = 2 \times (15 + 7) = 2 \times 22 = 44$  cm. Or add all four sides:  $15 + 7 + 15 + 7 = 44$  cm. The shortcut formula is faster than adding all sides individually (Chapter 13.2).

**34. C — North.** A half-turn rotates 180 degrees, reversing direction. Starting facing east, a half-turn produces facing west. Then a quarter-turn to the right rotates  $90^\circ$  clockwise from west to north. Two-step turn sequences require updating the facing direction after each individual turn (Chapter 12.3).

**35. B — Centimetres.** A pencil is typically 15–20 centimetres long — firmly in the centimetre range. Metres would produce values less than 1 (cumbersome for Grade 3); kilometres are far too large; litres measure capacity, not length. Only centimetres is appropriate for the length of a pencil (Chapter 13.1).

**36. D — 9:20.** The hour hand sits between the 9 and the 10, closer to the 9 — so the hour is 9 (the smaller of the two numbers it sits between). The minute hand points to the 4, which equals 20 minutes past the hour ( $4 \times 5 = 20$ ). The time is 9:20 (Chapter 14.1).

**37. A — 2 hours 40 minutes.** From 10:35 AM to 12:35 PM is 2 hours. From 12:35 PM to 1:15 PM is 40 minutes (12:35 to 1:00 is 25 minutes; 1:00 to 1:15 is 15 minutes;  $25 + 15 = 40$ ). Total elapsed time: 2 hours + 40 minutes = 2 hours 40 minutes. Crossing the noon boundary requires careful tracking (Chapter 14.3).

**38. C — 40 square centimetres.** The rectangle is 8 cm wide and 5 cm tall. Area = length  $\times$  width =  $8 \times 5 = 40$  square centimetres. Or count the unit squares: 8 columns  $\times$  5 rows = 40 squares. Area is measured in square units ( $\text{cm}^2$ ) — the small "2" must be included (Chapter 14.5).

**39. D — 7,000 mL.** The relationship: 1 litre = 1,000 millilitres. So 7 litres =  $7 \times 1,000 = 7,000$  mL. The other options (70, 700, 70,000) represent different amounts. Always apply the conversion factor 1,000 when moving between litres and millilitres (Chapter 13.4).

**40. A — 33 cm.** An equilateral triangle has 3 equal sides. Perimeter =  $3 \times \text{side length} = 3 \times 11 = 33$  cm. Or add all three sides:  $11 + 11 + 11 = 33$  cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).