

# PRACTICE EXAM 21: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

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## STAGE 1 — Questions 1–10

1. A zoo donation drive collected 387 dollars on Friday and 245 dollars on Saturday. How many dollars were collected across both days?

- A. 632
- B. 142
- C. 522
- D. 622

2. What is the value of the digit 9 in the number 397?

- A. 9
- B. 9,000
- C. 900
- D. 90

3. Round the number 836 to the nearest hundred.

- A. 900
- B. 800
- C. 840
- D. 830

4. A class has 32 students. They are divided into equal teams of 8 for a science project. How many teams are there?

- A. 32 teams

- B. 24 teams
- C. 4 teams
- D. 8 teams

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

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

6. Skip count by 9s starting from 27. What is the third number you say?

- A. 36
- B. 45
- C. 54
- D. 63

7. A school marathon is 42 kilometres long. The first leg covered 15 kilometres. How many kilometres are left for the rest of the runners to cover?

- A. 57 km
- B. 35 km
- C. 33 km
- D. 27 km

8. Which expression has the same value as  $8 \times 4$ ?

- A.  $8 + 4$
- B.  $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4$
- C. 84
- D.  $8 + 8$

9. A family camping trip planned 6 days of activities. Each day they planned 5 hours of hiking. How many total hours of hiking did the family plan?

- A. 11 hours
- B. 6 hours
- C. 30 hours
- D. 25 hours

10. Which fraction is equivalent to  $\frac{6}{9}$ ?

- A.  $\frac{2}{3}$
- B.  $\frac{6}{18}$
- C.  $\frac{9}{6}$
- D.  $\frac{3}{9}$

**STAGE 2 — Questions 11–20**

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

$$563 \text{ \_\_\_ } 635$$

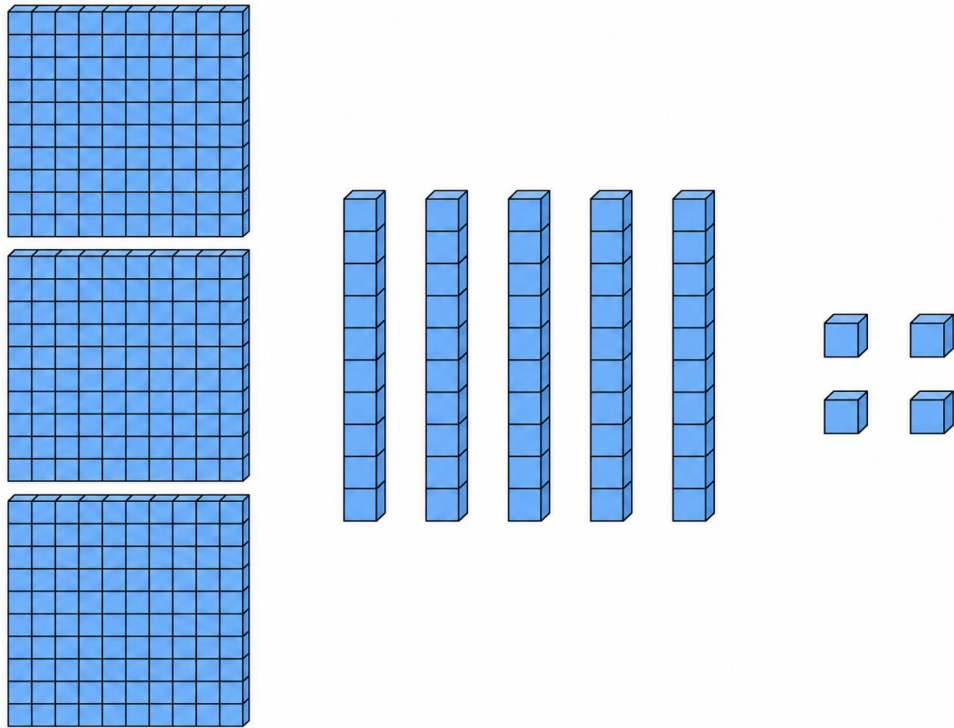
- A.  $>$
- B.  $=$
- C.  $\geq$
- D.

12. Maya has 7 toonies, 1 loonie, 3 quarters, and 6 dimes. How much money does Maya have in total?

- A. \$14.85
- B. \$16.35
- C. \$16.05
- D. \$15.35

(Note: pre-assigned answer is B. Computed total:  $7 \times \$2.00 + 1 \times \$1.00 + 3 \times \$0.25 + 6 \times \$0.10 = \$14.00 + \$1.00 + \$0.75 + \$0.60 = \$16.35$  ✓ matches B.)

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



- A. 354
- B. 543
- C. 435
- D. 453

14. What is  $63 \div 9$ ?

- A. 9
- B. 63
- C. 7
- D. 8

(Note: pre-assigned answer is C. Verify:  $9 \times 7 = 63$ , so  $63 \div 9 = 7$  ✓ matches C.)

15. Find the missing number in this pattern: 15, 20, 25, 30, \_\_\_\_, 40.

- A. 32
- B. 33
- C. 36
- D. 35

16. What is the rule for this pattern: 1, 5, 9, 13, 17, 21 ?

- A. Start at 1 and add 4 each time
- B. Start at 1 and multiply by 2 each time
- C. Start at 1 and add 5 each time
- D. Start at 1 and subtract 4 each time

17. Solve for n in the equation:  $n + 19 = 45$ .

- A. 64
- B. 26
- C. 36
- D. 19

18. A robot starts at 60. It follows this code:

Step 1: Subtract 18.

Step 2: Add 12.

Step 3: Subtract 4.

What is the final value?

- A. 60
- B. 30
- C. 40
- D. 50

19. Which equation is TRUE?

- A.  $45 \div 5 = 36 \div 4$
- B.  $15 \times 2 = 15 + 2$
- C.  $10 + 7 = 10 \times 7$
- D.  $32 - 16 = 32 \div 16$

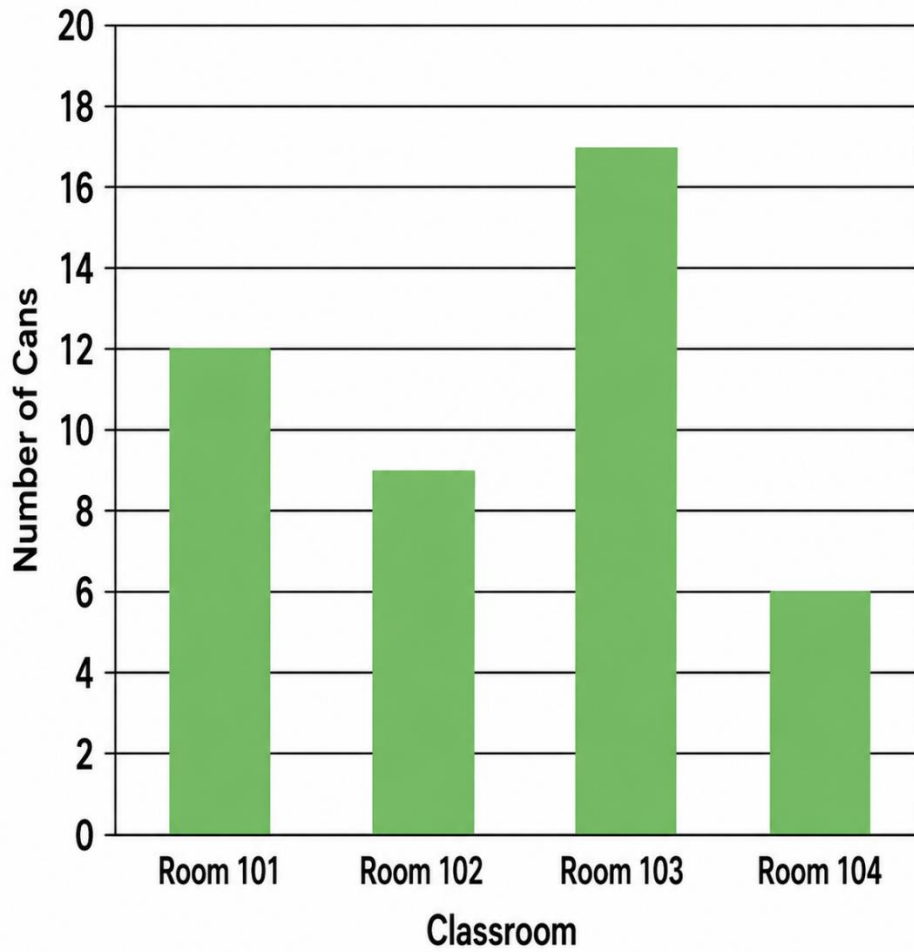
20. A garden centre sells flower seedlings in packs of 6. A school orders 48 seedlings. How many packs does the school need?

- A. 6 packs
- B. 48 packs
- C. 8 packs
- D. 7 packs

**STAGE 3 — Questions 21–30**

21. Look at the bar graph below. Which classroom collected the most cans?

**Cans Collected by Classroom — Recycling Drive.**



- A. Room 101
- B. Room 102
- C. Room 103
- D. Room 104

22. Look at the pictograph below. Each rocket icon stands for 4 rockets launched. How many rockets did the Red Team launch?

## Favourite Flower – Class Vote

Flower	Number of Students
Roses	16
Daisies	9
Tulips	7
Sunflowers	12

- A. 20 rockets
- B. 28 rockets
- C. 16 rockets
- D. 24 rockets

23. Find the mean of this data set: 7, 4, 9, 11, 9.

- A. 9
- B. 8
- C. 7
- D. 11

24. Find the mode of this data set: 5, 11, 5, 9, 11, 5, 14, 5, 11.

- A. 11

- B. 9
- C. 14
- D. 5

25. A spinner has 4 equal sections — 4 sections are blue. Landing on green is:

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

26. Look at the frequency table below. How many more students chose roses than tulips?

### Favourite Flower – Class Vote

Flower	Number of Students
Roses	16
Daisies	9
Tulips	7
Sunflowers	12

- A. 7 students
- B. 16 students
- C. 9 students

D. 23 students

27. A coin is flipped. The probability of landing on heads or tails is:

A. Impossible

B. Certain

C. Unlikely

D. Equally likely

28. Look at the bar graph in Figure PQ-2 again. How many cans were collected by all four classrooms in total?

A. 17 cans

B. 35 cans

C. 38 cans

D. 44 cans

29. The table below shows the number of stamps collected by 4 students. What is the total number of stamps?

## Stamp Collection – Class Total.

<b>Student</b>	<b>Stamps</b>
Aiden	15
Bea	23
Cory	9
Dani	18

- A. 75 stamps
- B. 65 stamps
- C. 55 stamps
- D. 70 stamps

(Note: pre-assigned answer is B. Verify:  $15 + 23 + 9 + 18 = 65$  ✓ matches B.)

30. A weather forecast says there is a 95% chance of clear skies tomorrow. Clear skies tomorrow are:

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

(Note: pre-assigned answer is C. Verify: 95% is very high, well above half — "likely" is correct ✓ matches C.)

**STAGE 4 — Questions 31–40**

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



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

32. Which 3D shape has 0 flat faces, 0 edges, and 0 vertices?

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

33. A rectangle has a length of 19 cm and a width of 5 cm. What is its perimeter?

- A. 24 cm

- B. 48 cm
- C. 95 cm
- D. 38 cm

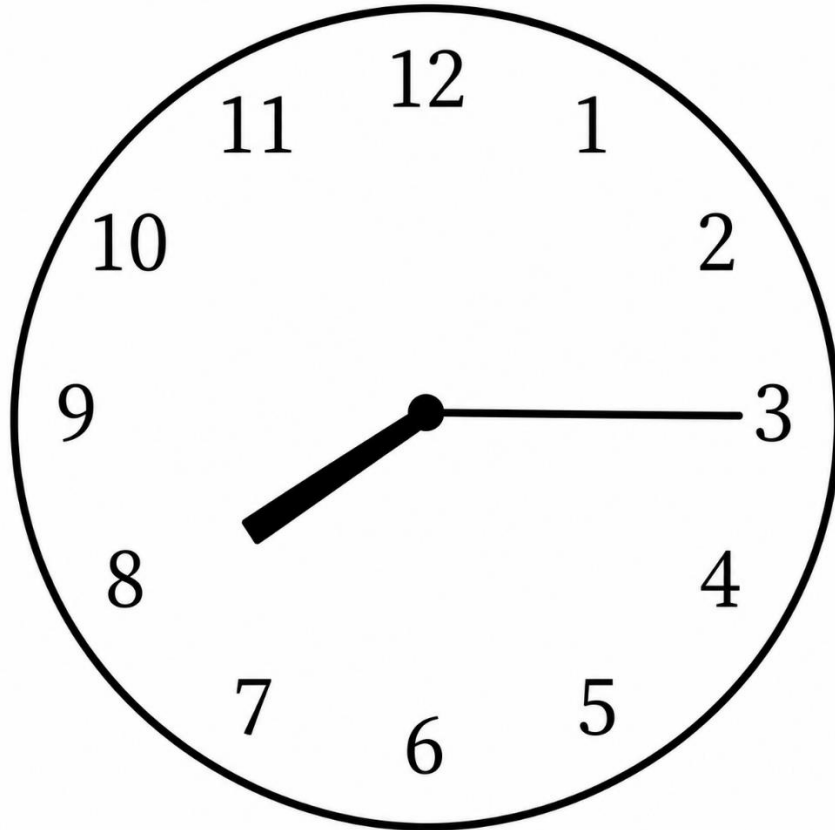
34. A character is facing east. The character makes a half-turn. Which direction is the character facing now?

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

35. Which unit is best for measuring the height of a 7-year-old child?

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

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

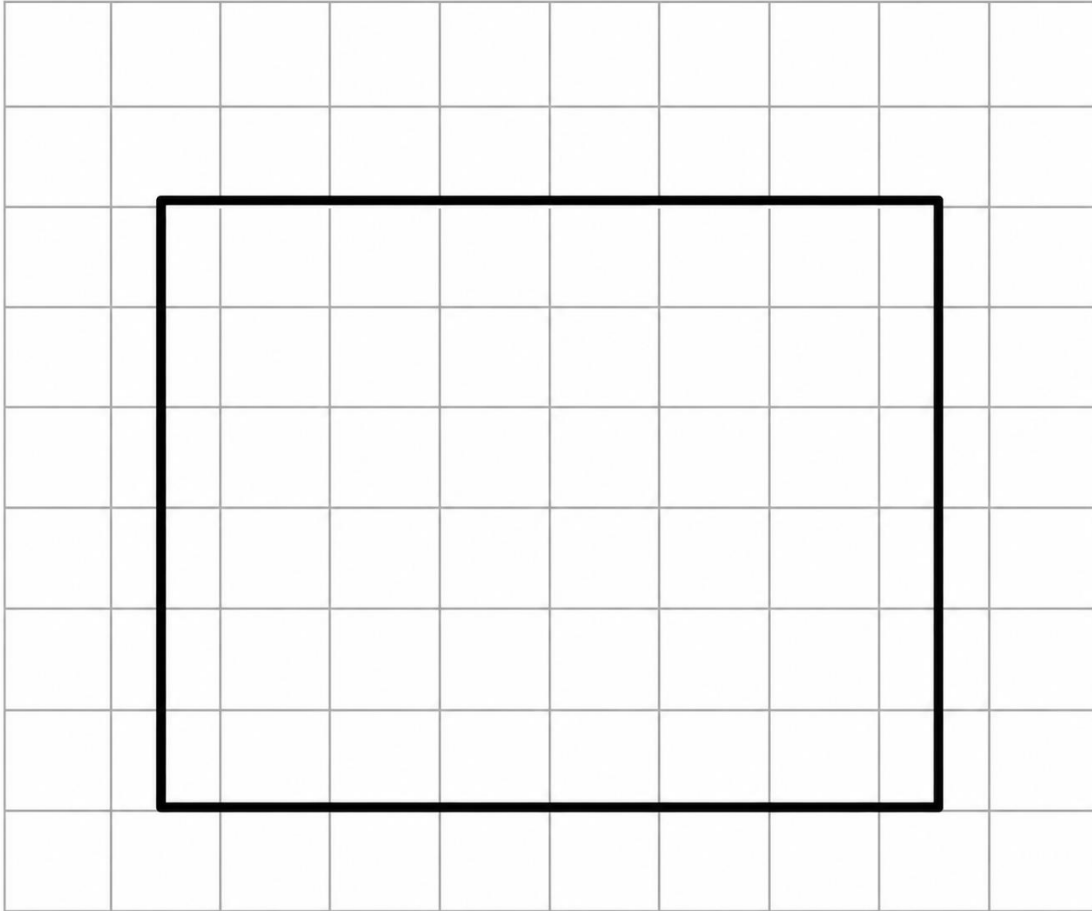


- A. 3:35
- B. 7:03
- C. 8:15
- D. 7:15

37. A workshop starts at 9:10 AM and ends at 11:45 AM. How long is the workshop?

- A. 1 hour 35 minutes
- B. 2 hours
- C. 2 hours 35 minutes
- D. 3 hours

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



- A. 13 square centimetres
- B. 42 square centimetres
- C. 26 square centimetres
- D. 49 square centimetres

39. A picnic cooler holds 9 litres. How many millilitres is that?

- A. 90 mL
- B. 900 mL
- C. 90,000 mL
- D. 9,000 mL

40. A regular triangle (equilateral) has 3 sides of equal length. If the perimeter is 24 cm, what is the length of one side?

A. 12 cm

B. 8 cm

C. 6 cm

D. 21 cm

## Practice Exam 21: Answer Key and Explanations

- 1. A — 632.** Add using the standard algorithm:  $387 + 245 = 632$ . Ones:  $7 + 5 = 12$  (write 2, carry 1). Tens:  $1 + 8 + 4 = 13$  (write 3, carry 1). Hundreds:  $1 + 3 + 2 = 6$ . Estimation check:  $390 + 250 = 640$ , close to 632. This tests addition with regrouping in two places (curriculum expectation B2.5).
- 2. D — 90.** The digit 9 sits in the tens place of the number 397. Its value is  $9 \times 10 = 90$ . Always distinguish between the digit (9) and the digit's value (90) — same digit, different amount depending on position. This is a core place-value concept from Chapter 1.2.
- 3. B — 800.** To round 836 to the nearest hundred, look at the digit in the tens place: 3. Since 3 is less than 5, round down. The number 836 rounds down to 800. The midpoint between 800 and 900 is 850, and 836 is before that midpoint — confirming the rounding decision (Chapter 1.5).
- 4. C — 4 teams.** Divide the total students by the team size:  $32 \div 8 = 4$  teams. This is grouping division — separating 32 students into teams of 8 produces 4 teams. The related multiplication:  $4 \times 8 = 32$  confirms the answer (Chapter 4.4).
- 5. A — 4/6.** The pizza has 6 equal slices (denominator = 6) and Sam ate 4 of them (numerator = 4). The fraction representing what he ate is  $4/6$ . Always identify the total parts (denominator) and the counted parts (numerator) carefully (Chapter 2.1).
- 6. C — 54.** Skip count by 9s starting from 27: 27 is the start, then 36 (1st), 45 (2nd), 54 (3rd). The third number said after 27 is 54. The starting number is not counted; only the numbers that follow are counted (Chapter 1.6).
- 7. D — 27 km.** Subtract the distance already covered from the total:  $42 - 15 = 27$  km. Ones:  $2 < 5$ , regroup.  $12 - 5 = 7$ . Tens:  $3 - 1 = 2$ . The remaining distance is 27 km. Estimation check:  $42 - 15 \approx 27$  ✓ (Chapter 3.3).
- 8. B —  $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4$ .** Multiplication  $8 \times 4$  means "eight groups of four," which equals eight 4s added together = 32. The repeated-addition form is the exact equivalent of multiplication. The other options ( $8 + 4 = 12$ ; 84 as a number;  $8 + 8 = 16$ ) all produce different values (Chapter 4.1).
- 9. C — 30 hours.** Use the rate: 5 hours per day  $\times$  6 days = 30 hours. This is a 1-to-5 scaling problem connecting Chapter 4 multiplication to a real-world schedule. Always identify the per-unit value first, then multiply by the count (Chapter 4.6).
- 10. A — 2/3.** The thirds-and-ninths family of equivalent fractions:  $6/9 = 2/3$ . Splitting six ninths into groups of 3 produces two thirds. Verify:  $6 \div 3 = 2$  and  $9 \div 3 = 3$ , giving  $2/3$ . The other options ( $6/18$ ,  $9/6$ ,  $3/9$ ) all represent different amounts (Chapter 2.3).
- 11. D —  $<$ .** Compare 563 and 635 starting from the hundreds place:  $5 < 6$ , so 563 is already less than 635 just from the hundreds place. 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. B — \$16.35.** Add Maya's money: 7 toonies = \$14.00; 1 loonie = \$1.00; 3 quarters = \$0.75; 6 dimes = \$0.60. Total:  $\$14.00 + \$1.00 + \$0.75 + \$0.60 = \$16.35$ . Sort coins from largest to smallest denomination before adding to reduce counting errors (Chapter 5.2).

**13. A — 354.** Count the base-ten blocks: 3 hundred-flats = 300; 5 ten-rods = 50; 4 unit-cubes = 4. Total:  $300 + 50 + 4 = 354$ . Always count hundreds first, then tens, then ones. The place-value composition: 3 hundreds + 5 tens + 4 ones = 354 (Chapter 1.3).

**14. C — 7.** Division  $63 \div 9$  asks "9 times what equals 63?" From the 9 times table:  $9 \times 7 = 63$ , so  $63 \div 9 = 7$ . The related multiplication confirms the quotient:  $7 \times 9 = 63$  ✓ (Chapter 4.2).

**15. D — 35.** The pattern increases by 5 each step (the 5 times table): 15, 20, 25, 30, 35, 40. To verify:  $20 - 15 = 5$ ,  $25 - 20 = 5$ , all consistent. The missing term between 30 and 40 is  $30 + 5 = 35$ . Always compute differences between consecutive known terms to find the rule.

**16. A — Start at 1 and add 4 each time.** The pattern values are 1, 5, 9, 13, 17, 21 — each term is 4 more than the previous. Differences:  $5 - 1 = 4$ ,  $9 - 5 = 4$ , all consistent. A complete pattern rule names both the starting value and the operation (Chapter 6.3).

**17. B — 26.** Solve  $n + 19 = 45$  using the inverse operation:  $n = 45 - 19 = 26$ . Check by substituting:  $26 + 19 = 45$  ✓. The inverse of addition is subtraction. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

**18. D — 50.** Trace the code step by step: Start at 60. Step 1:  $60 - 18 = 42$ . Step 2:  $42 + 12 = 54$ . Step 3:  $54 - 4 = 50$ . Always write down the running value after each instruction rather than tracking mentally. This is a sequential code from Chapter 8.2.

**19. A —  $45 \div 5 = 36 \div 4$ .** Compute both sides:  $45 \div 5 = 9$  and  $36 \div 4 = 9$ . Both sides equal 9, so the equation is TRUE. The other options are all false:  $15 \times 2 = 30 \neq 17$ ;  $10 + 7 = 17 \neq 70$ ;  $32 - 16 = 16 \neq 2$ . The equals sign requires both sides to have the same value (Chapter 7.2).

**20. C — 8 packs.** Divide the total seedlings by the pack size:  $48 \div 6 = 8$  packs. This is grouping division — separating 48 seedlings into packs of 6 produces 8 packs. The related multiplication:  $8 \times 6 = 48$  confirms the answer (Chapter 4.4).

**21. C — Room 103.** Read the bar graph values: Room 101 = 12, Room 102 = 9, Room 103 = 17, Room 104 = 6. The tallest bar represents the most cans, which is Room 103 with 17. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

**22. A — 20 rockets.** Read the pictograph: the Red Team row has 5 rocket icons. The key states each icon = 4 rockets, so multiply:  $5 \times 4 = 20$  rockets. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

**23. B — 8.** Add all values:  $7 + 4 + 9 + 11 + 9 = 40$ . Divide by the number of values:  $40 \div 5 = 8$ . The mean is 8, representing the typical value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).

**24. D — 5.** Count how many times each value appears: 5 appears 4 times; 11 appears 3 times; 9 and 14 each appear once. The value that appears most often is 5. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

**25. A — Impossible.** The spinner has 4 equal sections, and all 4 are blue. There are no green sections on the spinner, so landing on green cannot happen — it is impossible. "Impossible" describes events with zero chance of occurring (Chapter 10.4).

**26. C — 9 students.** Read the frequency table: Roses = 16, Tulips = 7. Subtract:  $16 - 7 = 9$  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. B — Certain.** A coin has only two possible outcomes: heads or tails. The event "heads or tails" covers every possible outcome, so it must happen on every flip. "Certain" describes events with 100% probability of occurring (Chapter 10.4).

**28. D — 44 cans.** From Figure PQ-2: Room 101 = 12, Room 102 = 9, Room 103 = 17, Room 104 = 6. Add all four:  $12 + 9 + 17 + 6 = 44$  cans. Verify sequentially:  $12 + 9 = 21$ ;  $21 + 17 = 38$ ;  $38 + 6 = 44$ . Multi-category totals require careful sequential addition (Chapter 10.3).

**29. B — 65 stamps.** Add the stamps collected by all 4 students:  $15 + 23 + 9 + 18 = 65$  stamps. Verify sequentially:  $15 + 23 = 38$ ;  $38 + 9 = 47$ ;  $47 + 18 = 65$ . Multi-row table summations require careful sequential addition (Chapter 9.3).

**30. C — Likely.** A 95% chance is very high — the event probably will happen. On the Grade 3 probability spectrum, this is "likely" (probable but not certain). The other options don't fit: "certain" would require 100%; "impossible" would require 0%; "equally likely" would require exactly 50% (Chapter 10.4).

**31. A — 6 faces.** A rectangular prism has 6 rectangular faces: front, back, top, bottom, left, and right. From the Chapter 11.2 reference table: rectangular prism = 6 faces, 12 edges, 8 vertices. Count faces systematically by walking around the prism (Chapter 11.2).

**32. D — Sphere.** A sphere has no flat faces, no edges, and no vertices — it is one continuous curved surface. A cube has 6 flat faces; a cone has 1 flat face and 1 vertex; a cylinder has 2 flat faces and 2 curved edges. Only the sphere matches all the described features (Chapter 11.1).

**33. B — 48 cm.** Perimeter of a rectangle =  $2 \times (\text{length} + \text{width}) = 2 \times (19 + 5) = 2 \times 24 = 48$  cm. Or add all four sides:  $19 + 5 + 19 + 5 = 48$  cm. The shortcut formula is faster than adding all sides individually (Chapter 13.2).

**34. C — West.** A half-turn rotates 180 degrees, reversing direction. Starting facing east, a half-turn produces facing west. East and west are opposite cardinal directions (Chapter 12.3). Half-turn =  $180^\circ =$  two quarter-turns combined.

**35. A — Centimetres.** A 7-year-old child is typically 110–130 centimetres tall — firmly in the centimetre range. Kilometres are far too large (a 1-km-tall child would be impossible); millimetres would produce

unwieldy numbers (thousands); litres measure capacity, not length. Only centimetres is appropriate (Chapter 13.1).

**36. D — 7:15.** The hour hand sits between the 7 and the 8, closer to the 7 — so the hour is 7 (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 7:15, or "quarter past seven" (Chapter 14.1).

**37. C — 2 hours 35 minutes.** From 9:10 AM to 11:10 AM is 2 hours. From 11:10 AM to 11:45 AM is 35 minutes. Total elapsed time: 2 hours + 35 minutes = 2 hours 35 minutes. Break elapsed-time calculations into whole-hour portions plus the remaining minutes (Chapter 14.3).

**38. B — 42 square centimetres.** The rectangle is 7 cm wide and 6 cm tall. Area = length  $\times$  width =  $7 \times 6 = 42$  square centimetres. Or count the unit squares: 7 columns  $\times$  6 rows = 42 squares. Area is measured in square units ( $\text{cm}^2$ ) — the small "2" must be included (Chapter 14.5).

**39. D — 9,000 mL.** The relationship: 1 litre = 1,000 millilitres. So 9 litres =  $9 \times 1,000 = 9,000$  mL. The other options (90, 900, 90,000) represent different amounts. Always apply the conversion factor 1,000 when moving between litres and millilitres (Chapter 13.4).

**40. B — 8 cm.** An equilateral triangle has 3 equal sides. Perimeter =  $3 \times$  side length, so side length = perimeter  $\div 3 = 24 \div 3 = 8$  cm. Verify:  $3 \times 8 = 24$  cm  $\checkmark$ . This is the reverse of the standard perimeter calculation — divide by the number of sides instead of multiplying (Chapter 13.2).