

# PRACTICE EXAM 2: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

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## STAGE 1 — Questions 1–10

1. Mr. Chen's bakery baked 384 muffins on Monday and 256 muffins on Tuesday. How many muffins did the bakery bake in total over the two days?

- A. 630 muffins
- B. 640 muffins
- C. 540 muffins
- D. 530 muffins

2. Which number is shown in expanded form as  $700 + 30 + 9$ ?

- A. 7,309
- B. 793
- C. 379
- D. 739

3. Round the number 348 to the nearest ten.

- A. 350
- B. 340
- C. 300
- D. 400

4. Lily has 1 chocolate bar that she shares equally with her 3 cousins, so that all 4 children get the same amount. What fraction of the chocolate bar does each child receive?

- A.  $\frac{1}{3}$

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

C.  $\frac{1}{4}$

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

5. A box of pencils costs \$2.75. Aiden pays with a \$5 bill. How much change should Aiden receive?

A. \$3.25

B. \$3.75

C. \$2.75

D. \$2.25

6. Skip count by 100s backward from 1,000. Which number is missing?

1,000, 900, 800, \_\_\_\_, 600, 500

A. 750

B. 700

C. 650

D. 850

7. A school library has 850 books on its shelves. Students borrowed 175 books for the weekend. How many books are still on the shelves?

A. 675 books

B. 685 books

C. 775 books

D. 1,025 books

8. Which expression is equivalent to  $10 \times 7$ ?

A.  $10 + 7$

B. 17

C. 70

D.  $7 \times 70$

9. A cake recipe needs 2 eggs to make 1 cake. How many eggs are needed to make 5 cakes?

- A. 7 eggs
- B. 10 eggs
- C. 25 eggs
- D. 5 eggs

10. Which fraction is equivalent to  $\frac{2}{3}$ ?

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

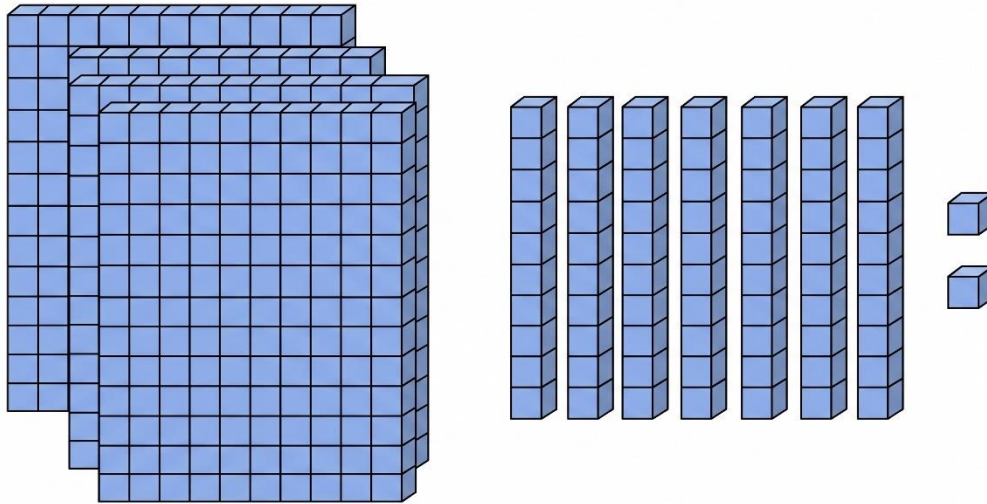
**STAGE 2 — Questions 11–20**

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

$$506 \text{ ___ } 560$$

- A. =
- B. >
- C.  $\neq$  and >
- D.

12. Look at the base-ten blocks shown. What number do they represent?



- A. 372
- B. 372
- C. 327
- D. 273

13. Maya saves \$50 every week from her allowance. How much money will she have saved after 8 weeks?

- A. \$400
- B. \$58
- C. \$42
- D. \$480

14. Aisha has 4 quarters, 3 dimes, and 1 nickel. How much money does she have in total?

- A. \$1.45
- B. \$1.30
- C. \$1.35
- D. \$1.40

15. Find the missing number in the pattern: 75, \_\_\_\_, 105, 120, 135, 150.

- A. 80
- B. 90
- C. 85
- D. 100

16. What is the rule for this pattern: 800, 700, 600, 500, 400, 300 ?

- A. Start at 800 and add 100 each time
- B. Start at 800 and divide by 2 each time
- C. Start at 800 and subtract 200 each time
- D. Start at 800 and subtract 100 each time

17. Solve for n in the equation:  $4 \times n = 28$ .

- A. 7
- B. 24
- C. 32
- D. 14

18. A robot starts at 50. It follows this code:

Step 1: Add 10.

Step 2: Subtract 5.

Step 3: Add 10.

What is the final value?

- A. 50
- B. 60
- C. 65
- D. 75

19. Which of the following equations is true?

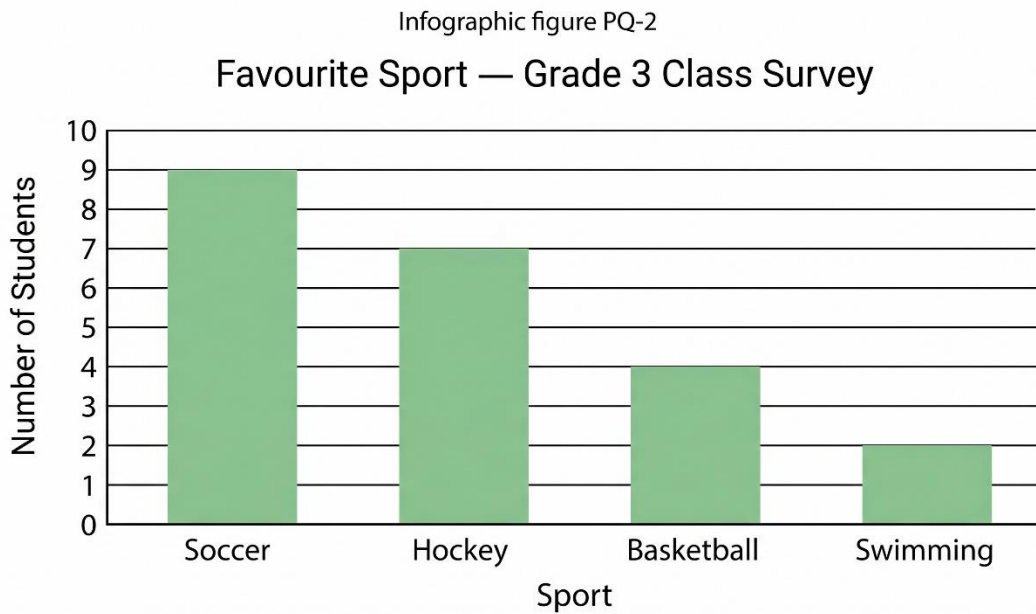
- A.  $6 + 8 = 6 \times 8$
- B.  $12 - 4 = 4 - 12$
- C.  $9 + 5 = 9 + 4$
- D.  $7 + 3 = 5 + 5$

20. A class is planning a pizza party. There are 18 students. Each pizza has 6 slices and each student will eat 2 slices. How many pizzas does the class need?

- A. 9 pizzas
- B. 6 pizzas
- C. 3 pizzas
- D. 18 pizzas

**STAGE 3 — Questions 21–30**

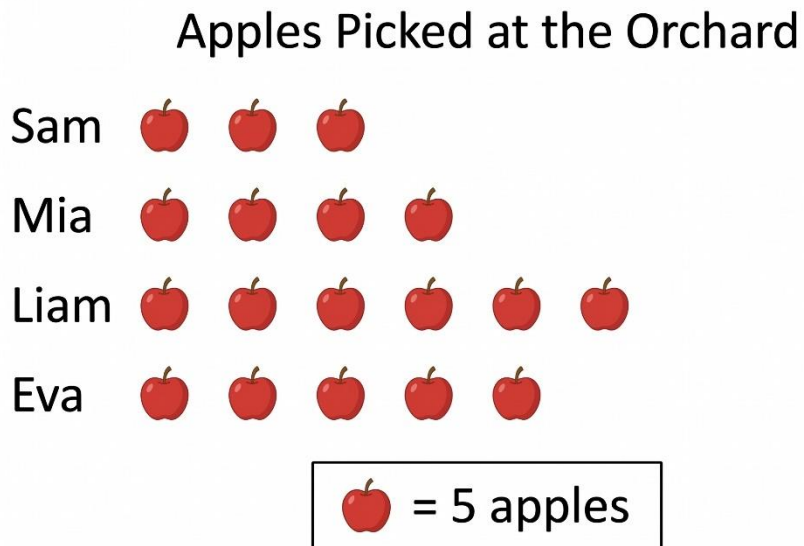
21. Look at the bar graph below. Which sport received the fewest votes?



- A. Soccer
- B. Basketball

- C. Swimming
- D. Hockey

22. Look at the pictograph below. Each apple icon stands for 5 apples picked. How many apples did Mia pick?



- A. 20 apples
- B. 4 apples
- C. 15 apples
- D. 25 apples

23. Find the mean of this data set: 10, 8, 6, 9, 7.

- A. 10
- B. 7
- C. 9
- D. 8

24. Find the mode of this data set: 12, 15, 12, 18, 12, 15, 20.

- A. 15

- B. 12
- C. 18
- D. 20

25. A bag contains 10 white balls and 0 black balls. What is the probability of drawing a white ball?

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

26. Look at the frequency table below. How many more students chose chocolate than strawberry as their favourite ice cream flavour?

<b>Favourite Ice Cream Flavour</b>	
<b>Flavour</b>	<b>Number of Students</b>
Chocolate	12
Vanilla	8
Strawberry	5
Mint	3
<b>Total</b>	<b>28</b>

- A. 12 students
- B. 5 students
- C. 7 students
- D. 17 students

27. A six-sided die is rolled once. What is the probability of rolling a 7?

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

28. The table below shows how many books each student read in a month. What is the total number of books read by all 5 students?

### Books Read in October

Student	Books Read
Aisha	4
Liam	6
Eva	3
Marcus	5
Sara	7

- A. 21 books
- B. 25 books
- C. 30 books
- D. 5 books

29. A spinner is divided into 8 equal sections. 6 sections are red and 2 sections are blue. Landing on red is:

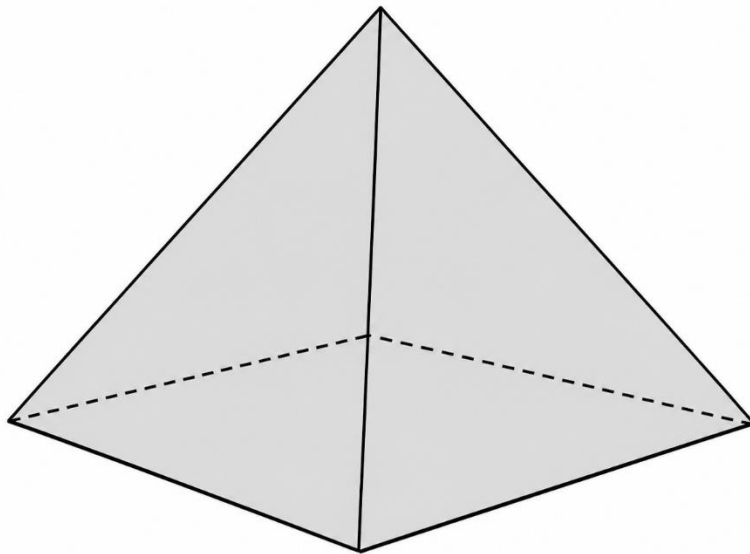
- A. Likely
- B. Equally likely to landing on blue
- C. Impossible
- D. Certain

30. Look at the bar graph from Figure PQ-2 again. How many students chose either soccer or hockey as their favourite sport?

- A. 9 students
- B. 7 students
- C. 16 students
- D. 13 students

STAGE 4 — Questions 31–40

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



- A. 5 vertices

- B. 4 vertices
- C. 8 vertices
- D. 6 vertices

32. Which 3D shape has 1 flat circular base and 1 curved surface that narrows to a point?

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

33. A rectangle has a length of 12 cm and a width of 5 cm. What is its perimeter?

- A. 17 cm
- B. 34 cm
- C. 60 cm
- D. 24 cm

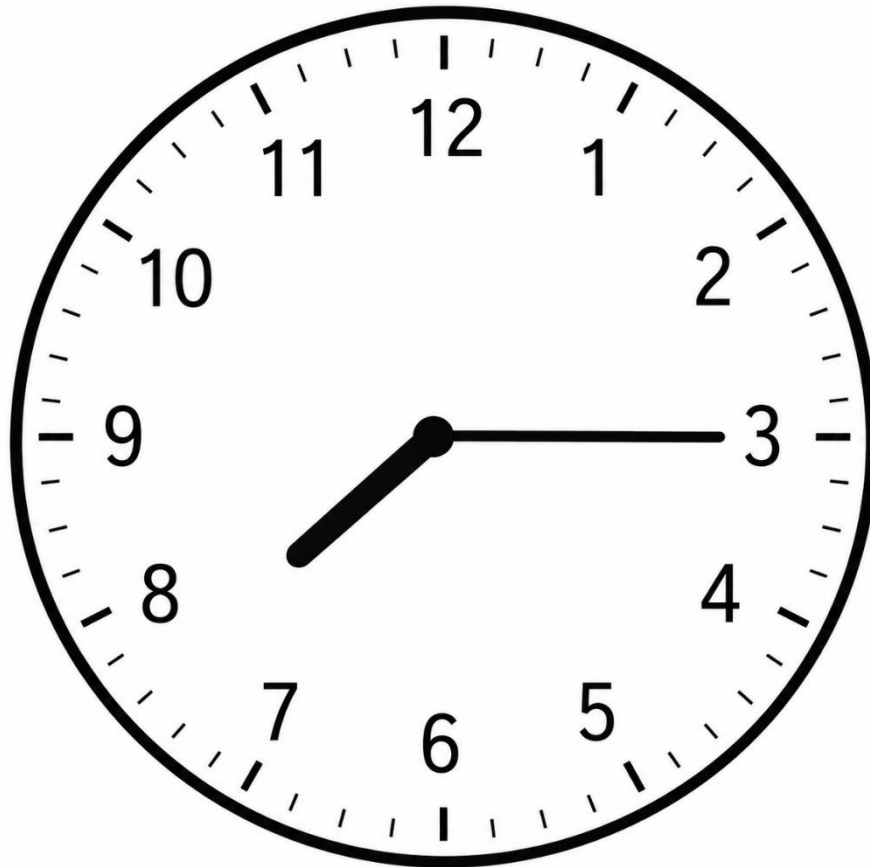
34. A character starts facing east. The character makes one quarter-turn to the right. Which direction is the character facing now?

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

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

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

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

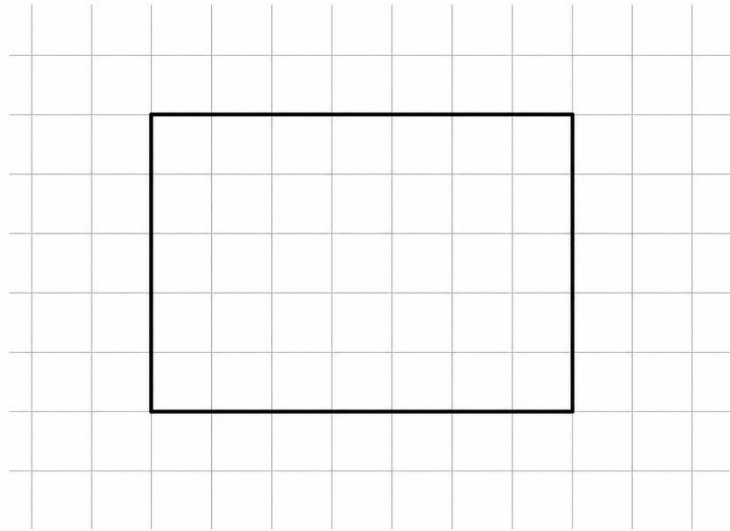


- A. 7:15
- B. 3:35
- C. 7:45
- D. 7:03

37. A swimming lesson starts at 4:00 PM and ends at 4:45 PM. How long is the swimming lesson?

- A. 1 hour
- B. 45 minutes
- C. 30 minutes
- D. 15 minutes

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



- A. 10 square centimetres
- B. 20 square centimetres
- C. 25 square centimetres
- D. 24 square centimetres

39. A juice bottle holds 1 litre of juice. How many millilitres is that?

- A. 10 mL
- B. 100 mL
- C. 1,000 mL
- D. 10,000 mL

40. A regular hexagon has 6 sides of equal length. If each side measures 4 cm, what is the perimeter of the hexagon?

- A. 24 cm
- B. 10 cm
- C. 64 cm
- D. 16 cm

## Practice Exam 2: Answer Key and Explanations

- 1. B — 640 muffins.** Add the two amounts using the standard algorithm:  $384 + 256 = 640$ . Ones:  $4 + 6 = 10$  (write 0, carry 1). Tens:  $1 + 8 + 5 = 14$  (write 4, carry 1). Hundreds:  $1 + 3 + 2 = 6$ . Estimation check:  $400 + 250 = 650$ , close to 640. This tests addition with regrouping in two places (curriculum expectation B2.5).
- 2. D — 739.** Expanded form  $700 + 30 + 9$  represents 7 hundreds + 3 tens + 9 ones, which combines to 739. Read place-value parts left to right: the hundreds (700), the tens (30), and the ones (9). Translating between expanded and standard form is a core place-value skill from Chapter 1.1.
- 3. A — 350.** To round 348 to the nearest ten, look at the ones digit: 8. Since 8 is greater than 5, round up. The number 348 rounds up to 350. The midpoint between 340 and 350 is 345, and 348 is past that midpoint — confirming the rounding choice.
- 4. C — 1/4.** Lily and her 3 cousins together make 4 children sharing 1 chocolate bar equally. Each child receives 1/4 of the bar. Read the problem carefully — "shares with her 3 cousins, so that all 4 children get the same amount" confirms 4 sharers. This is a fair-share problem from Chapter 2.2.
- 5. D — \$2.25.** Change = amount paid – price =  $\$5.00 - \$2.75$ . Using the counting-up strategy: from \$2.75, add 25¢ to reach \$3.00, then add \$2.00 to reach \$5.00. Total change: \$2.25. Estimation check:  $\$5 - \$3 = \$2$ , close to \$2.25.
- 6. B — 700.** The pattern is skip counting backward by 100:  $1,000 \rightarrow 900 \rightarrow 800 \rightarrow 700 \rightarrow 600 \rightarrow 500$ . Each term is 100 less than the previous term. The missing number between 800 and 600 is  $800 - 100 = 700$ . Backward skip counting connects to the subtraction skills built throughout Grade 3.
- 7. A — 675 books.** Subtract using the standard algorithm:  $850 - 175 = 675$ . Ones:  $0 < 5$ , so regroup.  $10 - 5 = 5$ . Tens:  $4 - 7$ , so regroup again.  $14 - 7 = 7$ . Hundreds:  $7 - 1 = 6$ . Estimation check:  $850 - 175 \approx 850 - 200 = 650$ , close to 675.
- 8. C — 70.** Multiplication  $10 \times 7$  means "ten groups of seven" or "seven groups of ten," and equals 70. The 10 times table shortcut: multiplying by 10 appends a zero to the other factor, so 7 becomes 70. The other options ( $17, 7 \times 70, 10 + 7$ ) all produce different values.
- 9. B — 10 eggs.** Use the ratio 2 eggs to 1 cake. Scaling up to 5 cakes:  $5 \times 2 = 10$  eggs. This is a 1-to-2 ratio scaled up (curriculum expectation B2.9), connecting directly to the 2 times table. Recipes are one of the most common real-world contexts for ratio problems.
- 10. D — 4/6.** The thirds-and-sixths family of equivalent fractions:  $2/3 = 4/6$ . Splitting each third into two smaller equal pieces produces sixths, and 4 of those sixths equal 2/3. The other options ( $2/6, 3/2, 1/3$ ) all represent different amounts. Equivalent fractions name the same amount in different forms (Chapter 2.4).
- 11. D — <.** Compare 506 and 560 starting from the hundreds place:  $5 = 5$  (tied). Move to the tens place:  $0 < 6$ , so 506 is less than 560. The "less than" symbol (<) opens toward the larger number on the right. Even though both numbers contain the same digits, place value makes them very different.

**12. B — 372.** The correct answer is B. Count the base-ten blocks: 3 hundred-flats = 300; 7 ten-rods = 70; 2 unit-cubes = 2. Total:  $300 + 70 + 2 = 372$ . Option C (327) reverses the tens and ones digits, representing 3 hundreds + 2 tens + 7 ones instead of the blocks shown. Option D (273) misrepresents the place values entirely, showing 2 hundreds + 7 tens + 3 ones, which does not match the blocks in the diagram.

**13. A — \$400.** Multiply the weekly savings by the number of weeks:  $\$50 \times 8 = \$400$ . Using skip counting by 50s eight times: 50, 100, 150, 200, 250, 300, 350, 400. This applies a 1-to-50 scaling ratio — connecting Chapter 4 multiplication to real-world financial reasoning.

**14. C — \$1.35.** Add Aisha's money: 4 quarters = \$1.00; 3 dimes = 30¢; 1 nickel = 5¢. Total:  $\$1.00 + \$0.30 + \$0.05 = \$1.35$ . Sort coins from largest to smallest before adding to reduce counting errors. Money problems combine coin recognition with addition.

**15. B — 90.** The pattern increases by 15 each step: 75, 90, 105, 120, 135, 150. To verify:  $105 - 90 = 15$ ,  $120 - 105 = 15$ , all consistent. The missing term between 75 and 105 is  $75 + 15 = 90$ . Always check the rule by computing differences between consecutive known terms.

**16. D — Start at 800 and subtract 100 each time.** The pattern values are 800, 700, 600, 500, 400, 300 — each term is 100 less than the previous. The starting value is 800 and the operation is "subtract 100." A complete pattern rule names both the starting value and the operation (Chapter 6.3).

**17. A — 7.** Solve  $4 \times n = 28$  by thinking: "4 times what equals 28?" From the multiplication facts:  $4 \times 7 = 28$ , so  $n = 7$ . Check by substituting:  $4 \times 7 = 28$  ✓. The inverse of multiplication is division:  $n = 28 \div 4 = 7$ . Either approach gives the same answer.

**18. C — 65.** Trace the code step by step: Start at 50. Step 1:  $50 + 10 = 60$ . Step 2:  $60 - 5 = 55$ . Step 3:  $55 + 10 = 65$ . Always write down the running value after each instruction rather than tracking mentally. This is a sequential code from Chapter 8.2.

**19. D —  $7 + 3 = 5 + 5$ .** Compute both sides:  $7 + 3 = 10$  and  $5 + 5 = 10$ . Both sides equal 10, so the equation is true. The other options are false:  $6 + 8 \neq 6 \times 8$  (14 vs 48);  $12 - 4 \neq 4 - 12$ ;  $9 + 5 \neq 9 + 4$  (14 vs 13). The equals sign means "has the same value as."

**20. B — 6 pizzas.** First find total slices needed:  $18 \text{ students} \times 2 \text{ slices} = 36 \text{ slices}$ . Then find pizzas needed:  $36 \div 6 = 6 \text{ pizzas}$ . This is a two-step mathematical modelling problem requiring multiplication followed by division (Chapter 8.4). Both steps must be done in order.

**21. C — Swimming.** Read the bar graph values: Soccer = 9, Hockey = 7, Basketball = 4, Swimming = 2. The shortest bar represents the fewest votes, which is Swimming with 2 students. Always trace from the top of each bar horizontally to the y-axis scale to read precise values (Chapter 9.5).

**22. A — 20 apples.** Read the pictograph: Mia's row has 4 apple icons. The key states each icon = 5 apples, so multiply:  $4 \times 5 = 20 \text{ apples}$ . Always check the key before counting — many-to-one correspondence means each picture represents more than one item (Chapter 9.4).

**23. D — 8.** Add all values:  $10 + 8 + 6 + 9 + 7 = 40$ . Divide by the number of values:  $40 \div 5 = 8$ . The mean is 8, representing the typical or average value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).

**24. B — 12.** Count how many times each value appears: 12 appears 3 times; 15 appears 2 times; 18 appears once; 20 appears once. The value that appears most often is 12. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

**25. A — Certain.** The bag contains 10 white balls and 0 black balls. Every ball in the bag is white, so drawing a white ball is guaranteed — there are no other colours possible. "Certain" describes an event that must happen. If even one black ball were in the bag, the event would only be "likely" instead.

**26. C — 7 students.** Read the frequency table: Chocolate = 12, Strawberry = 5. Subtract:  $12 - 5 = 7$  students. The phrase "how many more" signals subtraction — finding the difference between two known values. Reading frequency tables is a core data-literacy skill (Chapter 10.3).

**27. D — Impossible.** A standard six-sided die has faces numbered 1 through 6. There is no face showing 7, so rolling a 7 cannot happen — it is impossible. "Impossible" describes an event with zero chance of occurring. This is a Level-1 probability concept from Chapter 10.4.

**28. B — 25 books.** Add the book counts for all 5 students:  $4 + 6 + 3 + 5 + 7 = 25$  books. The total combines individual counts into a single sum. Always verify by counting the number of students to make sure no row was skipped (5 names  $\rightarrow$  5 numbers added).

**29. A — Likely.** The spinner has 6 red sections out of 8 total sections. More than half the spinner is red, so landing on red is likely (probable but not certain). It would only be "certain" if all 8 sections were red, and only "equally likely" if 4 sections were red and 4 were blue (Chapter 10.4).

**30. C — 16 students.** Read the bar graph: Soccer = 9, Hockey = 7. Add:  $9 + 7 = 16$  students chose either soccer or hockey. 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.

**31. A — 5 vertices.** A square pyramid has 4 vertices at the corners of the square base plus 1 vertex at the apex where the four triangular faces meet. Total:  $4 + 1 = 5$  vertices. From the Chapter 11.2 reference table: square pyramid = 5 faces, 8 edges, 5 vertices.

**32. C — Cone.** A cone has exactly 1 flat circular base and 1 curved surface that narrows to a single point (the apex). A cylinder has 2 circular bases and a curved surface that doesn't narrow. A sphere has only one curved surface and no base. A pyramid has a flat polygonal base and triangular faces (Chapter 11.1).

**33. B — 34 cm.** Perimeter of a rectangle =  $2 \times (\text{length} + \text{width}) = 2 \times (12 + 5) = 2 \times 17 = 34$  cm. Or add all four sides:  $12 + 5 + 12 + 5 = 34$  cm. The shortcut formula is faster than adding all sides individually, especially for larger numbers (Chapter 13.2).

**34. D — South.** A quarter-turn rotates 90 degrees. Starting facing east and turning right by  $90^\circ$  rotates clockwise to face south. Verification: East  $\rightarrow$  (right turn)  $\rightarrow$  South. The four cardinal directions cycle clockwise as N  $\rightarrow$  E  $\rightarrow$  S  $\rightarrow$  W  $\rightarrow$  N (Chapter 12.3).

**35. C — Kilograms.** A watermelon typically weighs 3 to 10 kilograms — firmly in the kilogram range. Millimetres and millilitres measure length and capacity respectively, not mass. Litres measure capacity. Only kilograms is a mass unit appropriate for an object of this size (Chapter 13.3).

**36. A — 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). 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. B — 45 minutes.** From 4:00 PM to 4:45 PM, the hour stays the same (4) and the minutes change from 00 to 45. Elapsed time:  $45 - 0 = 45$  minutes. Since the time stays within a single hour, no crossing of the hour boundary is needed (Chapter 14.3).

**38. D — 24 square centimetres.** The rectangle is 6 cm wide and 4 cm tall. Area = length  $\times$  width =  $6 \times 4 = 24$  square centimetres. Or count the unit squares inside the rectangle directly: 6 columns  $\times$  4 rows = 24 squares. Area is measured in square units ( $\text{cm}^2$ ) — Chapter 14.5.

**39. C — 1,000 mL.** The relationship between litres and millilitres is: 1 L = 1,000 mL. The prefix "milli-" means one-thousandth, so 1,000 millilitres equals 1 litre. The other options (10, 100, 10,000) all represent different amounts. This is a core metric capacity relationship from Chapter 13.4.

**40. A — 24 cm.** A regular hexagon has 6 equal sides. Perimeter =  $6 \times$  side length =  $6 \times 4 = 24$  cm. Or add all six sides:  $4 + 4 + 4 + 4 + 4 + 4 = 24$  cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).

