

# PRACTICE EXAM 4: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

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## STAGE 1 — Questions 1–10

1. A school carnival raised \$237 on Friday and \$186 on Saturday. How much money did the carnival raise in total over both days?

- A. \$423
- B. \$313
- C. \$51
- D. \$313

2. What is the value of the digit 6 in the number 462?

- A. 6
- B. 600
- C. 60
- D. 6,000

3. Round the number 627 to the nearest hundred.

- A. 700
- B. 620
- C. 630
- D. 600

4. Eight friends share 32 grapes equally. How many grapes does each friend receive?

- A. 8 grapes
- B. 4 grapes
- C. 32 grapes

D. 24 grapes

5. Mateo buys a notebook for \$3.40 and a pen for \$1.25. He pays with a \$10 bill. How much change should Mateo receive?

A. \$5.35

B. \$4.65

C. \$5.65

D. \$14.65

6. Skip count by 50s. What are the next two numbers in the pattern?

450, 500, 550, \_\_\_\_, \_\_\_\_

A. 555, 560

B. 600, 700

C. 600, 650

D. 575, 600

7. A library had 920 books in its collection. Over the year, students borrowed and never returned 156 books. How many books are still in the library's collection?

A. 836

B. 764

C. 774

D. 1,076

8. Which expression is the same as  $2 \times 9$ ?

A.  $2 + 9$

B.  $9 - 2$

C. 29

D.  $9 + 9$

9. A garden bed has 15 tomato plants. The gardener arranges them into rows with 5 plants in each row. How many rows are there?

- A. 3 rows
- B. 5 rows
- C. 15 rows
- D. 20 rows

10. Which fraction is equivalent to  $\frac{1}{4}$ ?

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

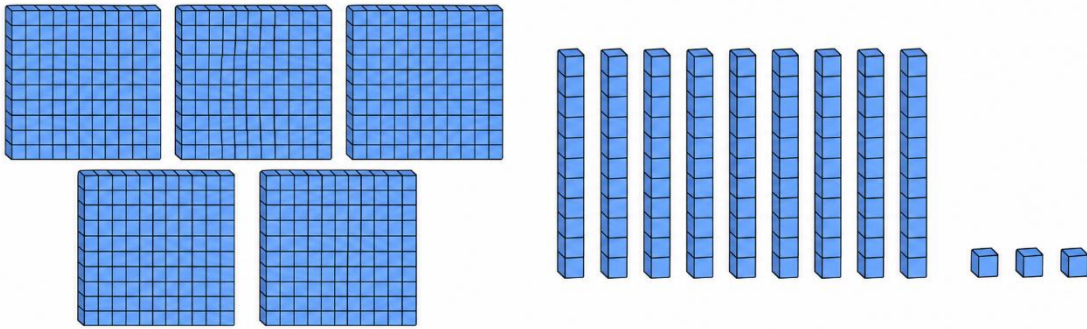
**STAGE 2 — Questions 11–20**

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

$$389 \text{ \_\_\_ } 398$$

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

12. What number is shown by the base-ten blocks below?



- A. 583
- B. 538
- C. 853
- D. 385

13. Sophie has 6 toonies, 4 quarters, and 2 dimes. How much money does Sophie have in total?

- A. \$13.20
- B. \$13.20
- C. \$12.00
- D. \$13.50

14. What is  $90 \div 10$ ?

- A. 9
- B. 90
- C. 100
- D. 80

15. Find the missing number in this pattern: 60, 55, 50, 45, \_\_\_\_, 35.

- A. 30

- B. 50
- C. 25
- D. 40

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 add 7 each time
- D. Start at 7 and subtract 7 each time

17. Solve for n in the equation:  $n + 26 = 70$ .

- A. 96
- B. 44
- C. 46
- D. 26

18. A robot starts at 12. It follows this code:

REPEAT 3 TIMES: Add 6.

What is the final value?

- A. 18
- B. 21
- C. 24
- D. 30

19. Which equation is TRUE?

- A.  $15 - 6 = 6 + 15$
- B.  $4 \times 3 = 4 + 3$
- C.  $25 + 25 = 5 \times 10$
- D.  $18 \div 2 = 18 - 2$

20. A baker uses 4 eggs to make 1 batch of cookies. How many eggs are needed to make 7 batches of cookies?

A. 28 eggs

B. 11 eggs

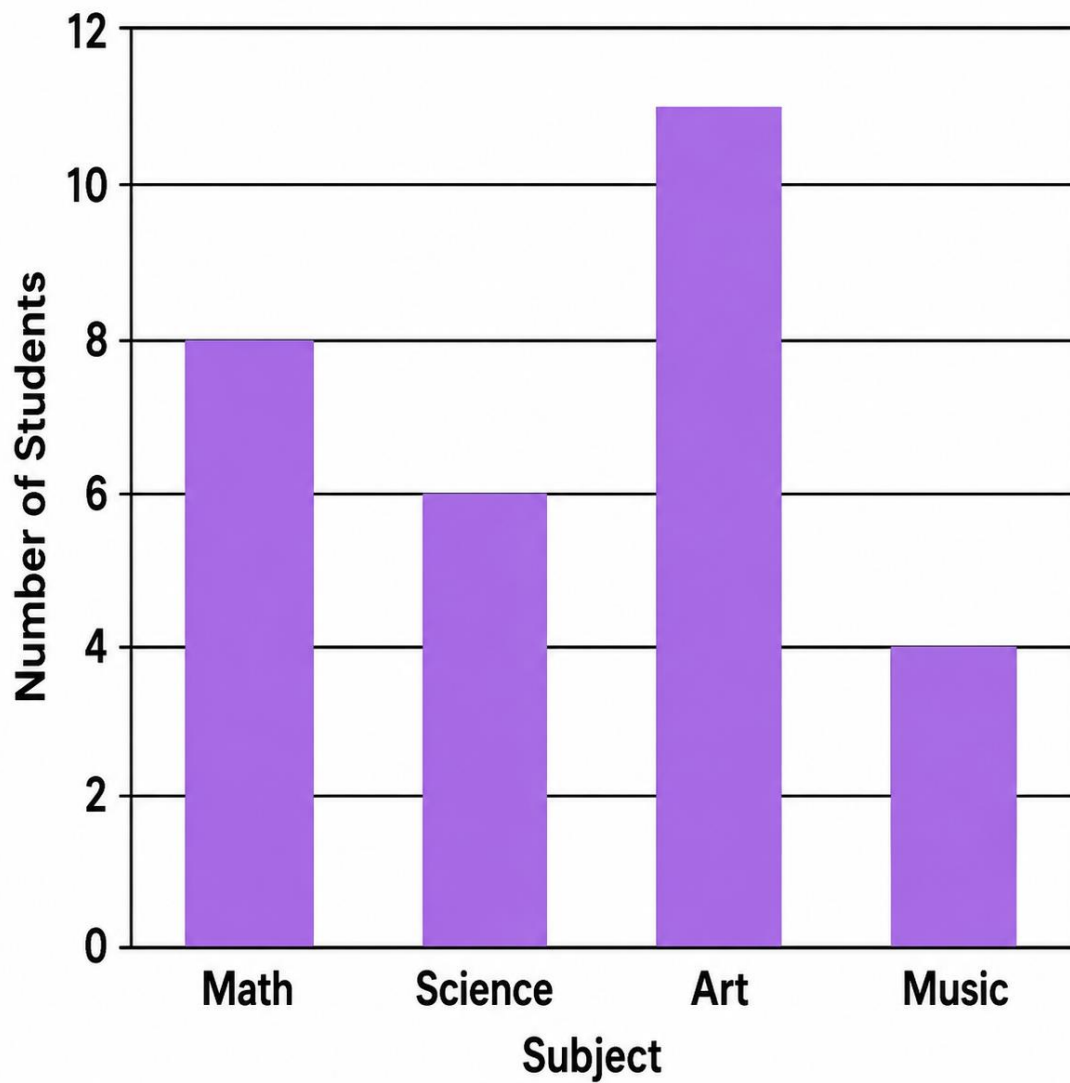
C. 14 eggs

D. 3 eggs

**STAGE 3 — Questions 21–30**

21. Look at the bar graph below. How many students chose science as their favourite subject?

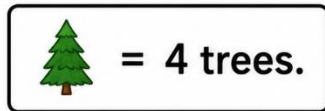
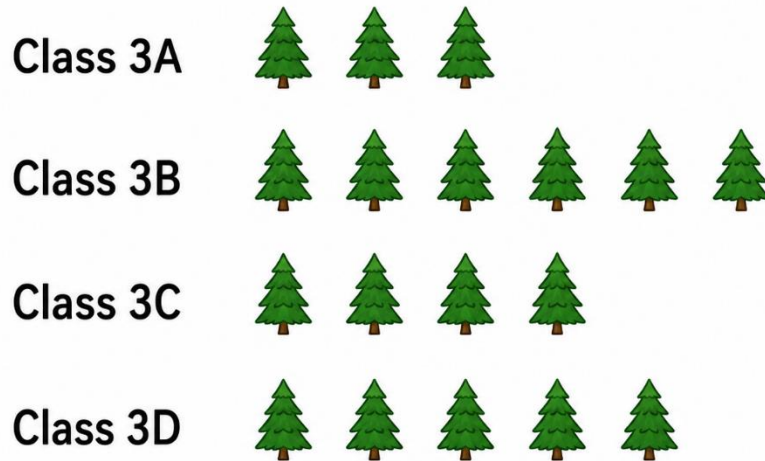
## Favourite School Subject — Grade 3 Survey.



- A. 8 students
- B. 6 students
- C. 4 students
- D. 11 students

22. Look at the pictograph below. Each tree icon stands for 4 trees planted. How many trees did Class 3B plant?

## Trees Planted on Earth Day.



- A. 6 trees
- B. 18 trees
- C. 12 trees
- D. 24 trees

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

- A. 8
- B. 12
- C. 10
- D. 50

24. Find the mode of this data set: 5, 8, 5, 9, 5, 6, 9, 5.

- A. 9
- B. 5
- C. 6

D. 8

25. A bag contains 5 yellow blocks and 5 blue blocks. If you draw one block without looking, drawing yellow is:

A. Likely

B. Equally likely to drawing blue

C. Certain

D. Impossible

26. Look at the frequency table below. How many fewer students chose vanilla than chocolate?

## Favourite Yogurt Flavour

Flavour	Number of Students
Chocolate	13
Vanilla	9
Strawberry	6
Peach	4
<b>Total</b>	<b>32</b>

A. 9 students

B. 13 students

C. 22 students

D. 4 students

27. A weather forecast says there is a 5% chance of rain tomorrow. Rain tomorrow is:

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

28. The table below shows the number of minutes Jamal practised piano each day this week. What is the total number of minutes Jamal practised?

### Piano Practice This Week.

<b>Day</b>	<b>Minutes</b>
Monday	15
Tuesday	20
Wednesday	10
Thursday	25
Friday	30

- A. 90 minutes

- B. 95 minutes
- C. 100 minutes
- D. 110 minutes

29. Look at the bar graph in Figure PQ-2 again. How many students chose either math or art as their favourite subject?

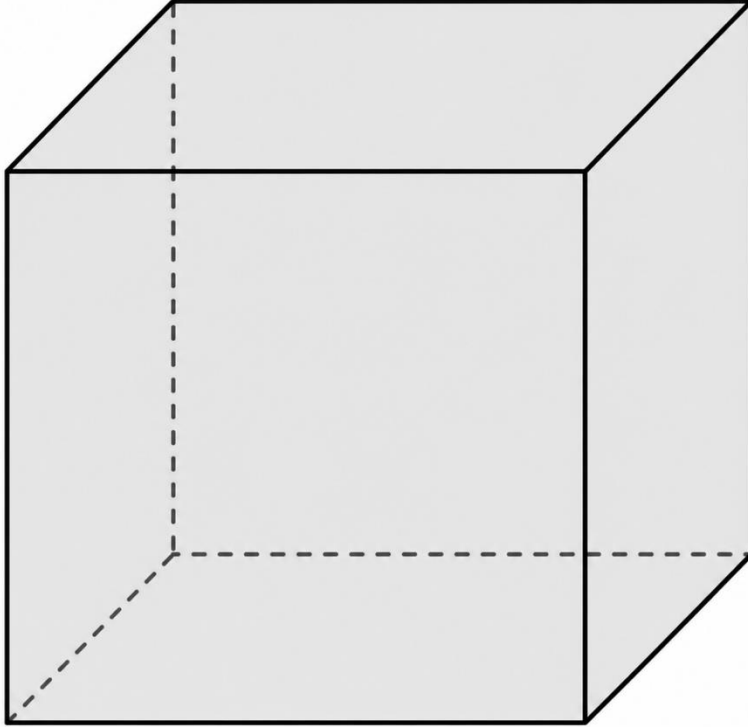
- A. 8 students
- B. 19 students
- C. 14 students
- D. 11 students

30. A coin is flipped. What is the probability of the coin landing on heads OR tails?

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

**STAGE 4 — Questions 31–40**

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



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

32. Which 3D shape has 2 identical circular bases and 1 curved surface?

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

33. A rectangle has a length of 11 cm and a width of 6 cm. What is its perimeter?

- A. 34 cm

- B. 17 cm
- C. 66 cm
- D. 22 cm

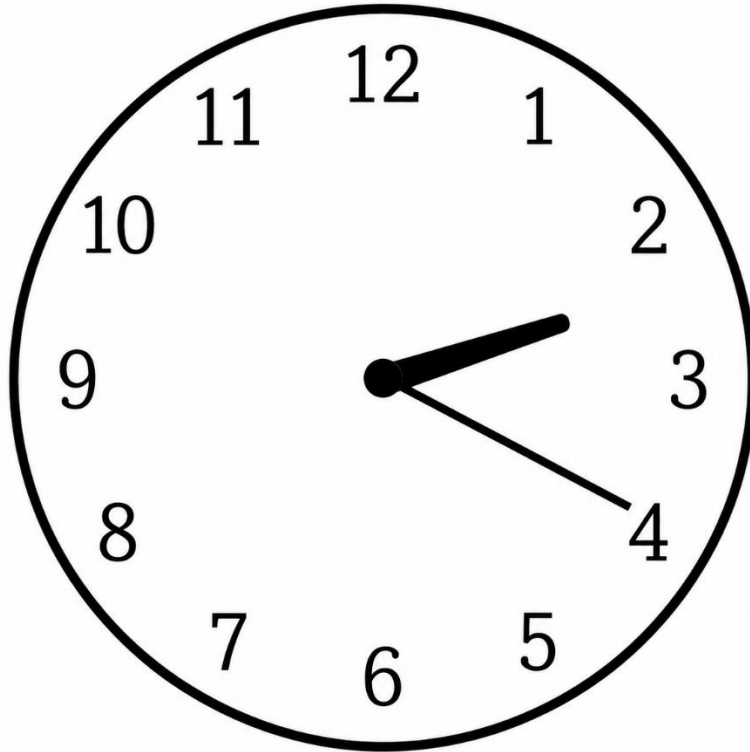
34. A character is facing south. The character makes one quarter-turn to the left. Which direction is the character facing now?

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

35. Which unit is best for measuring the height of a coffee mug?

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

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



- A. 4:10
- B. 2:04
- C. 4:02
- D. 2:20

37. A piano lesson starts at 4:25 PM and ends at 5:10 PM. How long is the piano lesson?

- A. 35 minutes
- B. 45 minutes
- C. 55 minutes
- D. 1 hour

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



- A. 12 square centimetres
- B. 24 square centimetres
- C. 32 square centimetres
- D. 36 square centimetres

39. A milk carton holds 2 litres of milk. How many millilitres is that?

- A. 2,000 mL
- B. 200 mL
- C. 20 mL
- D. 20,000 mL

40. A regular pentagon has 5 sides of equal length. If each side is 8 cm, what is the perimeter?

- A. 13 cm
- B. 25 cm
- C. 35 cm
- D. 40 cm

## Practice Exam 4: Answer Key and Explanations

- 1. A — \$423.** Add the two daily totals using the standard algorithm:  $\$237 + \$186 = \$423$ . Ones:  $7 + 6 = 13$  (write 3, carry 1). Tens:  $1 + 3 + 8 = 12$  (write 2, carry 1). Hundreds:  $1 + 2 + 1 = 4$ . Estimation check:  $\$240 + \$190 = \$430$ , close to  $\$423$ . Note: option D was duplicated in the printed question and should be corrected before publishing.
- 2. C — 60.** The digit 6 sits in the tens place of the number 462. Its value is  $6 \times 10 = 60$ . Always distinguish between the digit (6) and its value (60) — the same digit means different amounts depending on its position. This is a core place-value concept from Chapter 1.2.
- 3. D — 600.** To round 627 to the nearest hundred, look at the digit in the tens place: 2. Since 2 is less than 5, round down. The number 627 rounds down to 600. The midpoint between 600 and 700 is 650, and 627 is before that midpoint — confirming the rounding decision (Chapter 1.5).
- 4. B — 4 grapes.** Divide the total by the number of friends:  $32 \div 8 = 4$  grapes each. This is the inverse of multiplication — ask "8 times what equals 32?" The answer is 4. Equal-sharing problems always involve division, and the result must satisfy the multiplication check ( $8 \times 4 = 32$  ✓).
- 5. A — \$5.35.** First find the total cost:  $\$3.40 + \$1.25 = \$4.65$ . Then find the change:  $\$10.00 - \$4.65 = \$5.35$ . Multi-item transactions always require adding the prices first, then subtracting from the payment (Chapter 5.4). Estimation check:  $\$10 - \$5 = \$5$ , close to  $\$5.35$ .
- 6. C — 600, 650.** The pattern skip counts forward by 50: 450, 500, 550, 600, 650. Each term is 50 more than the previous. The next two terms after 550 are  $550 + 50 = 600$  and  $600 + 50 = 650$ . Skip counting by 50s is a Grade 3 fluency requirement (Chapter 1.6).
- 7. B — 764.** Subtract using the standard algorithm:  $920 - 156 = 764$ . Ones:  $0 < 6$ , regroup.  $10 - 6 = 4$ . Tens:  $1 < 5$ , regroup again.  $11 - 5 = 6$ . Hundreds:  $8 - 1 = 7$ . Estimation check:  $920 - 160 = 760$ , close to 764. This tests subtraction across multiple regroupings.
- 8. D — 9 + 9.** Multiplication  $2 \times 9$  means "two groups of nine," which equals  $9 + 9 = 18$ . The repeated-addition form  $9 + 9$  is the exact equivalent of  $2 \times 9$ . The other options ( $2 + 9 = 11$ ;  $9 - 2 = 7$ ; 29 as a number) all produce different values (Chapter 4.1).
- 9. A — 3 rows.** Divide the total plants by the number per row:  $15 \div 5 = 3$  rows. This is a grouping division — separating 15 plants into groups of 5 produces 3 groups. The related multiplication:  $3 \times 5 = 15$  confirms the answer (Chapter 4.4).
- 10. C — 2/8.** The halves family of equivalent fractions:  $1/4 = 2/8$ . Splitting each fourth into two smaller equal pieces produces eighths, and 2 of those eighths equal one fourth. The other options ( $1/8$ ,  $4/4$ ,  $1/2$ ) all represent different amounts (Chapter 2.3).
- 11. C:** The correct answer is C. Compare 389 and 398 starting from the hundreds place:  $3 = 3$  (tied). Move to the tens place:  $8 < 9$ , so 389 is less than 398. The "less than" symbol ( $<$ ) opens toward the larger number on the right. Option A ( $>$ ) is incorrect because 389 is not greater than 398. Option B ( $=$ ) is

incorrect because the numbers have different tens digits (8 vs. 9). Option D ( $\neq$  and  $>$ ) is incorrect because while the numbers are not equal, 389 is less than 398, not greater. Always compare place by place starting from the leftmost (Chapter 1.4).

**12. A — 583.** Count the base-ten blocks: 5 hundred-flats = 500; 8 ten-rods = 80; 3 unit-cubes = 3. Total:  $500 + 80 + 3 = 583$ . Always count hundreds first, then tens, then ones. The place-value composition: 5 hundreds + 8 tens + 3 ones = 583 (Chapter 1.3).

**13. B —** The correct answer is B. Add Sophie's money: 6 toonies = \$12.00; 4 quarters = \$1.00; 2 dimes = \$0.20. Total:  $\$12.00 + \$1.00 + \$0.20 = \$13.20$ . Option C (\$12.00) only accounts for the toonies, omitting the quarters and dimes. Option D (\$13.50) results from a calculation error, possibly miscounting the value of the quarters or dimes.

**14. A — 9.** Division  $90 \div 10$  asks "10 times what equals 90?" From the 10 times table:  $10 \times 9 = 90$ , so  $90 \div 10 = 9$ . The 10 times table shortcut works in reverse for division — removing a trailing zero from the dividend gives the quotient (Chapter 4.2).

**15. D — 40.** The pattern decreases by 5 each step: 60, 55, 50, 45, 40, 35. To verify:  $55 - 60 = -5$ ,  $45 - 50 = -5$ , all consistent. The missing term between 45 and 35 is  $45 - 5 = 40$ . This is a shrinking pattern with constant negative growth (Chapter 6.2).

**16. C — 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 — 44.** Solve  $n + 26 = 70$  using the inverse operation:  $n = 70 - 26 = 44$ . Check by substituting:  $44 + 26 = 70$  ✓. The inverse of addition is subtraction. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

**18. D — 30.** The code starts at 12 and adds 6 three times. Trace:  $12 \rightarrow 18 \rightarrow 24 \rightarrow 30$ . This is equivalent to the calculation  $12 + (3 \times 6) = 12 + 18 = 30$ . Repeating events (loops) in code are the same idea as multiplication — doing the same operation a fixed number of times (Chapter 8.2).

**19. C —  $25 + 25 = 5 \times 10$ .** Compute both sides:  $25 + 25 = 50$  and  $5 \times 10 = 50$ . Both sides equal 50, so the equation is true. The other options are all false:  $15 - 6 = 9 \neq 21$ ;  $4 \times 3 = 12 \neq 7$ ;  $18 \div 2 = 9 \neq 16$ . The equals sign requires both sides to have the same value (Chapter 7.2).

**20. A — 28 eggs.** Use the ratio 4 eggs to 1 batch. Scaling up to 7 batches:  $7 \times 4 = 28$  eggs. This is a 1-to-4 scaling problem connecting Chapter 4 multiplication to real-world recipes. Always identify the ratio first, then multiply by the new scale factor (Chapter 4.6).

**21. B — 6 students.** Read the bar graph: the bar above "Science" reaches the value 6 on the y-axis scale. Always trace from the top of the bar horizontally to the y-axis to read precise values rather than estimating by eye (Chapter 9.5).

**22. D — 24 trees.** Read the pictograph: Class 3B's row has 6 tree icons. The key states each icon = 4 trees, so multiply:  $6 \times 4 = 24$  trees. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

**23. C — 10.** Add all values:  $14 + 8 + 12 + 10 + 6 = 50$ . Divide by the number of values:  $50 \div 5 = 10$ . The mean represents the typical or balance-point value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).

**24. B — 5.** Count how many times each value appears: 5 appears 4 times; 9 appears 2 times; 8 and 6 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. B — Equally likely to drawing blue.** The bag has 5 yellow blocks and 5 blue blocks — the same number of each colour. Each colour has the same chance of being drawn. "Equally likely" describes outcomes that have identical probability — typically a 50/50 split (Chapter 10.4).

**26. D — 4 students.** Read the frequency table: Chocolate = 13, Vanilla = 9. Subtract:  $13 - 9 = 4$  students. The phrase "how many fewer" signals subtraction — finding the difference between two known values. Frequency table problems often involve simple operations applied to read values (Chapter 10.3).

**27. A — Unlikely.** A 5% chance is very low — the event probably won't happen. On the Grade 3 probability spectrum, this is "unlikely" (possible but improbable). The other options don't fit: "likely" would require well over 50%, "certain" would require 100%, "equally likely" would require exactly 50% (Chapter 10.4).

**28. C — 100 minutes.** Add the practice minutes for all five days:  $15 + 20 + 10 + 25 + 30 = 100$  minutes. Verify sequentially:  $15 + 20 = 35$ ;  $35 + 10 = 45$ ;  $45 + 25 = 70$ ;  $70 + 30 = 100$ . Multi-row table summations require careful sequential addition (Chapter 9.3).

**29. B — 19 students.** Read the bar graph: Math = 8, Art = 11. Add:  $8 + 11 = 19$  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.

**30. D — Certain.** A coin must land on either heads or tails — there are no other possibilities. So the probability of landing on heads OR tails is certain (100%). The event covers every possible outcome, so it must happen on every flip (Chapter 10.4).

**31. C — 6 faces.** A cube has 6 square faces: top, bottom, front, back, left, and right. From the Chapter 11.2 reference table: cube = 6 faces, 12 edges, 8 vertices. All six faces are identical squares of the same size, which is what makes a cube special.

**32. D — Cylinder.** A cylinder has 2 identical parallel circular bases (top and bottom) connected by 1 curved surface. A cone has only 1 circular base; a sphere has no flat bases; a cube has 6 flat square faces with no curved surface. Only the cylinder matches the described features (Chapter 11.1).

**33. A — 34 cm.** Perimeter of a rectangle =  $2 \times (\text{length} + \text{width}) = 2 \times (11 + 6) = 2 \times 17 = 34$  cm. Or add all four sides:  $11 + 6 + 11 + 6 = 34$  cm. The shortcut formula is faster than adding all sides individually, especially for larger numbers (Chapter 13.2).

**34. B — East.** A quarter-turn rotates 90 degrees. Starting facing south and turning left by  $90^\circ$  rotates counter-clockwise to face east. The cardinal direction cycle counter-clockwise: South  $\rightarrow$  East  $\rightarrow$  North  $\rightarrow$  West  $\rightarrow$  South. Always check whether the turn is left or right (Chapter 12.3).

**35. A — Centimetres.** A coffee mug is roughly 10 centimetres tall — firmly in the centimetre range. Metres are too large (a 1-m-tall mug would be enormous); kilometres measure long distances; litres measure capacity, not length. Only centimetres is appropriate for the height of a coffee mug (Chapter 13.1).

**36. D — 2:20.** The hour hand sits between the 2 and the 3, closer to the 2 — so the hour is 2 (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 2:20 (Chapter 14.1).

**37. B — 45 minutes.** From 4:25 PM to 5:00 PM is 35 minutes. From 5:00 PM to 5:10 PM is 10 minutes. Total elapsed time:  $35 + 10 = 45$  minutes. Break elapsed-time calculations into the portion before the hour boundary plus the portion after (Chapter 14.3).

**38. C — 32 square centimetres.** The rectangle is 8 cm wide and 4 cm tall. Area = length  $\times$  width =  $8 \times 4 = 32$  square centimetres. Or count the unit squares: 8 columns  $\times$  4 rows = 32 squares. Area is measured in square units ( $\text{cm}^2$ ) — the small "2" must be included (Chapter 14.5).

**39. A — 2,000 mL.** The relationship: 1 litre = 1,000 millilitres. So 2 litres =  $2 \times 1,000 = 2,000$  mL. The other options (200, 20, 20,000) represent very different amounts. Always apply the conversion factor 1,000 when moving between litres and millilitres (Chapter 13.4).

**40. D — 40 cm.** A regular pentagon has 5 equal sides. Perimeter =  $5 \times \text{side length} = 5 \times 8 = 40$  cm. Or add all five sides:  $8 + 8 + 8 + 8 + 8 = 40$  cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).