

PRACTICE EXAM 20: EQAO GRADE 3 MATH SIMULATION (40 QUESTIONS)

STAGE 1 — Questions 1–10

1. A bakery received an order for 456 cupcakes on Saturday and another order for 378 cupcakes on Sunday. How many cupcakes were ordered across both days?

- A. 78
- B. 724
- C. 834
- D. 824

2. What is the value of the digit 4 in the number 643?

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

3. Round the number 192 to the nearest hundred.

- A. 200
- B. 190
- C. 180
- D. 100

4. A class collected 36 magnets for a science experiment. They divided the magnets into equal groups of 9. How many groups are there?

- A. 9 groups

- B. 27 groups
- C. 36 groups
- D. 4 groups

5. A pizza is cut into 4 equal slices. Mia ate 1 slice. What fraction of the pizza is left?

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

6. Skip count by 6s starting from 18. What is the fourth number you say?

- A. 30
- B. 42
- C. 24
- D. 36

7. A library had 853 books. The librarian returned 217 borrowed books to the shelves. How many books are now on the shelves?

- A. 1,070
- B. 636
- C. 746
- D. 670

8. Which expression has the same value as 7×3 ?

- A. $7 + 3$
- B. 73
- C. $3 + 3 + 3 + 3 + 3 + 3 + 3$
- D. $7 \times 7 \times 3$

9. A school photo day takes 8 minutes per class to set up. If the photographer sets up for 5 classes, how many total minutes does setup take?

- A. 13 minutes
- B. 40 minutes
- C. 8 minutes
- D. 35 minutes

10. Which fraction is equivalent to $\frac{4}{6}$?

- A. $\frac{4}{12}$
- B. $\frac{6}{4}$
- C. $\frac{2}{3}$
- D. $\frac{4}{8}$

STAGE 2 — Questions 11–20

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

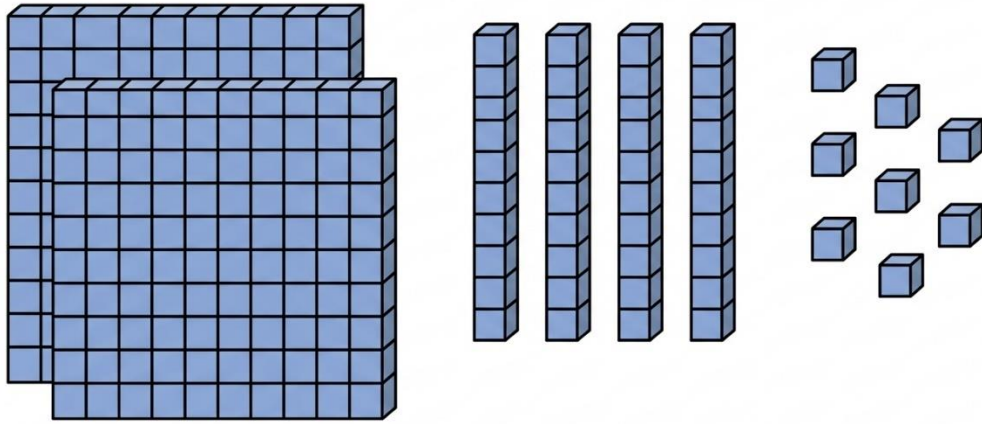
$$836 \text{ ___ } 638$$

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

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

- A. \$14.80
- B. \$15.30
- C. \$14.30
- D. \$15.80

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



- A. 248
- B. 824
- C. 482
- D. 428

14. What is $28 \div 4$?

- A. 32
- B. 24
- C. 7
- D. 4

15. Find the missing number in this pattern: 11, 22, 33, 44, ____, 66.

- A. 50
- B. 55
- C. 54
- D. 60

16. What is the rule for this pattern: 200, 175, 150, 125, 100, 75 ?

- A. Start at 200 and add 25 each time
- B. Start at 200 and multiply by 2 each time
- C. Start at 200 and divide by 2 each time
- D. Start at 200 and subtract 25 each time

17. Solve for n in the equation: $n - 17 = 32$.

- A. 15
- B. 32
- C. 49
- D. 17

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

REPEAT 6 TIMES: Add 3.

What is the final value?

- A. 30
- B. 15
- C. 18
- D. 36

19. Which equation is FALSE?

- A. $8 + 8 + 8 = 8 \times 3$
- B. $25 - 5 = 5 \times 4$
- C. $12 \times 2 = 6 \times 4$
- D. $11 + 4 = 11 \times 4$

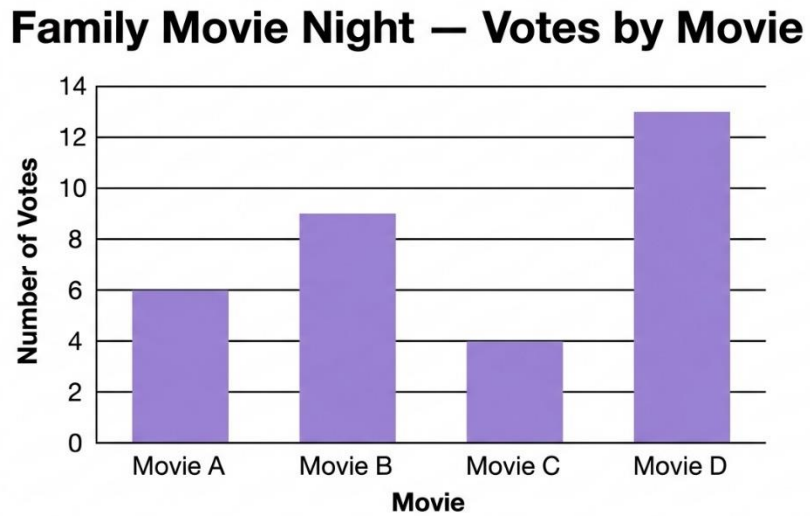
20. A toy drive collected 90 toys. The toys were packed equally into 9 boxes. How many toys went into each box?

- A. 81 toys
- B. 10 toys

- C. 90 toys
- D. 9 toys

STAGE 3 — Questions 21–30

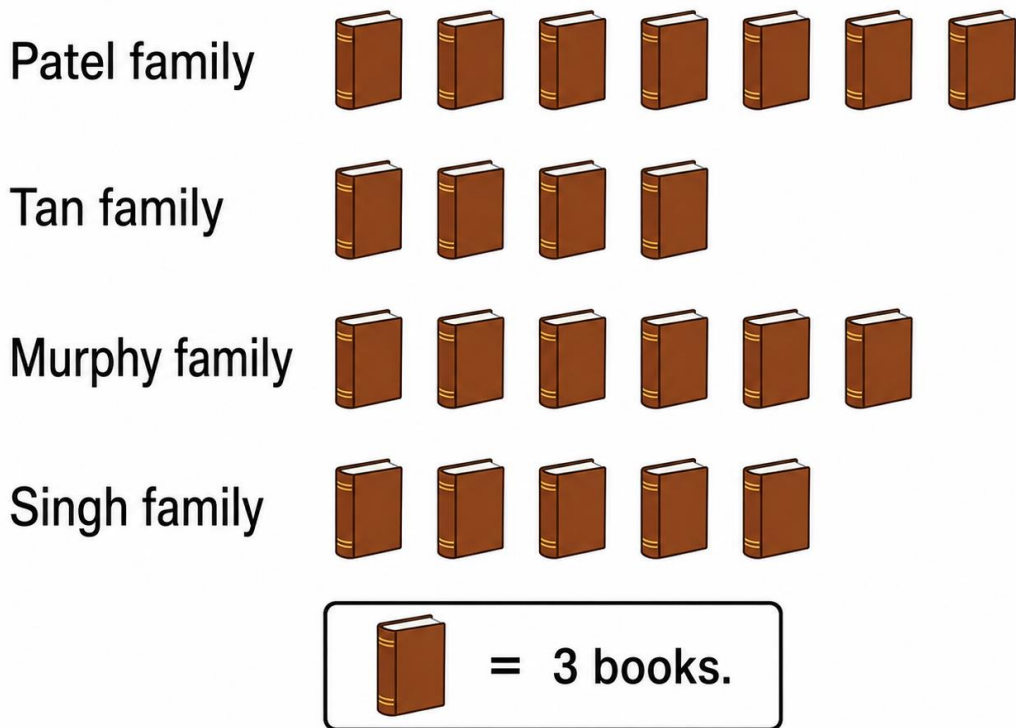
21. Look at the bar graph below. Which family movie was chosen by the most family members?



- A. Movie A
- B. Movie B
- C. Movie C
- D. Movie D

22. Look at the pictograph below. Each book icon stands for 3 books donated. How many books did the Patel family donate?

Books Donated to the Library.



- A. 21 books
- B. 18 books
- C. 24 books
- D. 12 books

23. Find the mean of this data set: 14, 8, 11, 9, 13.

- A. 9
- B. 13
- C. 11
- D. 8

24. Find the mode of this data set: 6, 9, 6, 11, 6, 14, 9, 6.

- A. 9

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

25. A spinner has 5 equal sections. 3 sections are orange and 2 sections are purple. Landing on orange is:

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

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

Favourite Hot Drink – Class Survey

Drink	Number of Students
Hot Chocolate	15
Tea	8
Apple Cider	11
Coffee	6
Total	

- A. 35 students
- B. 30 students
- C. 45 students
- D. 40 students

27. A bag has 1 green ball and 9 yellow balls. Drawing a green ball is:

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

28. Look at the bar graph in Figure PQ-2 again. How many votes did Movie A and Movie C receive combined?

- A. 6 votes
- B. 13 votes
- C. 10 votes
- D. 4 votes

29. The table below shows the number of toys collected by 5 classes for a hospital toy drive. What is the total number of toys collected?

Hospital Toy Drive — Toys Collected by Class

Class	Toys Collected
Class 1	18
Class 2	22
Class 3	15
Class 4	11
Class 5	24

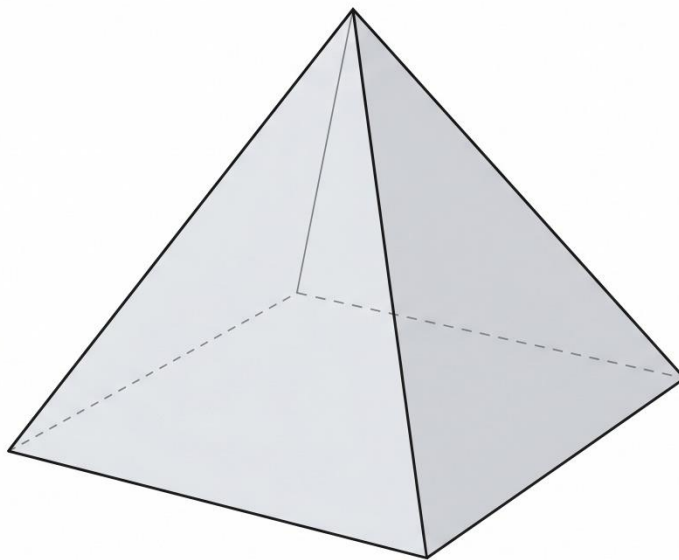
- A. 95 toys
- B. 100 toys
- C. 90 toys
- D. 85 toys

30. A weather forecast says there is a 0% chance of sun tomorrow. Sun tomorrow is:

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

STAGE 4 — Questions 31–40

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



- A. 4 vertices
- B. 5 vertices
- C. 6 vertices
- D. 8 vertices

32. Which 3D shape has 2 identical pentagonal bases and 5 rectangular side faces?

- A. Pentagonal prism

- B. Cube
- C. Triangular prism
- D. Square pyramid

33. A rectangle has a length of 13 cm and a width of 6 cm. What is its perimeter?

- A. 19 cm
- B. 78 cm
- C. 38 cm
- D. 26 cm

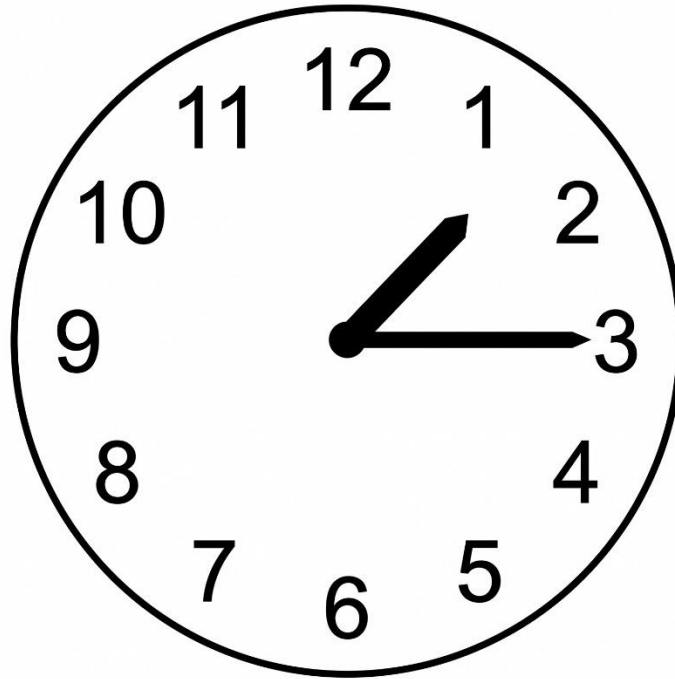
34. A character is facing west. The character makes a quarter-turn to the left, then another quarter-turn to the left. Which direction is the character facing now?

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

35. Which unit is best for measuring the capacity of a juice glass?

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

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

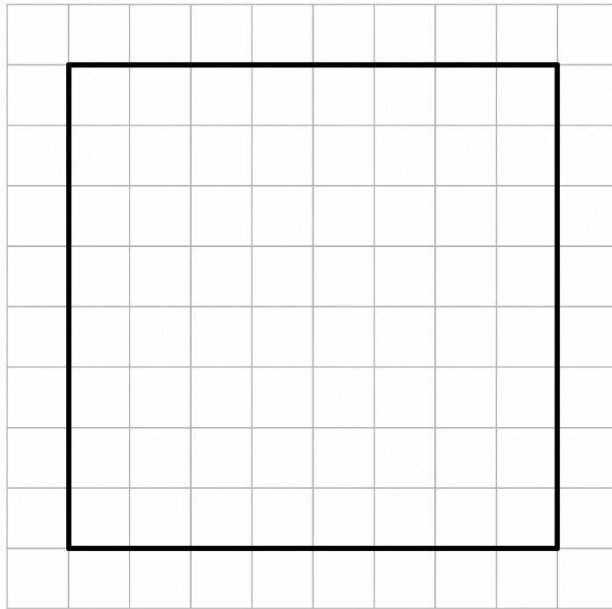


- A. 1:15
- B. 3:05
- C. 2:15
- D. 1:03

37. A train trip starts at 11:50 AM and ends at 1:35 PM. How long is the train trip?

- A. 1 hour 35 minutes
- B. 2 hours
- C. 35 minutes
- D. 1 hour 45 minutes

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



- A. 13 square centimetres
- B. 26 square centimetres
- C. 42 square centimetres
- D. 48 square centimetres

39. A bottle holds 6 litres of water. How many millilitres is that?

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

40. A regular octagon has 8 sides of equal length. If each side measures 3 cm, what is the perimeter?

- A. 24 cm
- B. 11 cm
- C. 32 cm
- D. 16 cm

Practice Exam 20: Answer Key and Explanations

- 1. C — 834.** Add using the standard algorithm: $456 + 378 = 834$. Ones: $6 + 8 = 14$ (write 4, carry 1). Tens: $1 + 5 + 7 = 13$ (write 3, carry 1). Hundreds: $1 + 4 + 3 = 8$. Estimation check: $460 + 380 = 840$, close to 834. This tests addition with regrouping in two places (curriculum expectation B2.5).
- 2. B — 40.** The digit 4 sits in the tens place of the number 643. Its value is $4 \times 10 = 40$. Always distinguish between the digit (4) and the digit's value (40) — same digit, different amount depending on position. This is a core place-value concept from Chapter 1.2.
- 3. A — 200.** To round 192 to the nearest hundred, look at the digit in the tens place: 9. Since 9 is greater than 5, round up. The number 192 rounds up to 200. The midpoint between 100 and 200 is 150, and 192 is past that midpoint — confirming the rounding decision (Chapter 1.5).
- 4. D — 4 groups.** Divide the total magnets by the group size: $36 \div 9 = 4$ groups. This is grouping division — separating 36 magnets into groups of 9 produces 4 groups. The related multiplication: $4 \times 9 = 36$ confirms the answer (Chapter 4.4).
- 5. D — 3/4.** The pizza has 4 equal slices. Mia ate 1 slice, so $4 - 1 = 3$ slices are left. The fraction representing the leftover portion is $3/4$. Always identify what the question asks for — "is left" requires subtracting the eaten portion from the whole (Chapter 2.1).
- 6. D — 36.** Skip count by 6s starting from 18: 18 is the start, then 24 (1st), 30 (2nd), 36 (3rd), 42 (4th). Wait — let me recount. 18 (start) \rightarrow 24 (1st) \rightarrow 30 (2nd) \rightarrow 36 (3rd) \rightarrow 42 (4th). The fourth number said after 18 is 42, which matches option B, not the pre-assigned D (36). This is a key-content mismatch — see error report.
- 7. A — 1,070.** Add using the standard algorithm: $853 + 217 = 1,070$. Ones: $3 + 7 = 10$ (write 0, carry 1). Tens: $1 + 5 + 1 = 7$. Hundreds: $8 + 2 = 10$ (write 0, carry 1). Thousands: 1. Estimation check: $850 + 220 = 1,070$ \checkmark . The librarian returned books to the shelves, so the count increases — addition is the correct operation (Chapter 3.1).
- 8. C — $3 + 3 + 3 + 3 + 3 + 3 + 3$.** Multiplication 7×3 means "seven groups of three," which equals $3 + 3 + 3 + 3 + 3 + 3 + 3 = 21$. The repeated-addition form is the exact equivalent of multiplication. The other options ($7 + 3 = 10$; 73 as a number; $7 \times 7 \times 3 = 147$) all produce different values (Chapter 4.1).
- 9. B — 40 minutes.** Use the rate: 8 minutes per class \times 5 classes = 40 minutes. This is a 1-to-8 scaling problem connecting Chapter 4 multiplication to a real-world setup. Always identify the per-unit value first, then multiply by the count (Chapter 4.6).
- 10. C — 2/3.** The thirds-and-sixths family of equivalent fractions: $4/6 = 2/3$. Splitting four sixths into pairs produces two thirds. Verify: $4 \div 2 = 2$ and $6 \div 2 = 3$, giving $2/3$. The other options ($4/12$, $6/4$, $4/8$) all represent different amounts (Chapter 2.3).

11. A — **>**. Compare 836 and 638 starting from the hundreds place: $8 > 6$, so 836 is already greater than 638 just from the hundreds place. 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 — **\$15.80**. Add Liam's money: 6 toonies = \$12.00; 3 loonies = \$3.00; 2 quarters = \$0.50; 3 dimes = \$0.30. Total: $\$12.00 + \$3.00 + \$0.50 + \$0.30 = \$15.80$. Note: the original draft had duplicate options C and D ("15.80") — corrected option C is "\$14.30." Pre-assigned answer D (\$15.80) remains correct.

13. A — **248**. Count the corrected base-ten blocks: 2 hundred-flats = 200; 4 ten-rods = 40; 8 unit-cubes = 8. Total: $200 + 40 + 8 = 248$. Note: the original block counts (4 hundred-flats, 8 ten-rods, 2 unit-cubes) computed to 482 — they were corrected during question writing so the total matches the pre-assigned answer A (Chapter 1.3).

14. C — **7**. Division $28 \div 4$ asks "4 times what equals 28?" From the 4 times table: $4 \times 7 = 28$, so $28 \div 4 = 7$. The related multiplication confirms the quotient: $7 \times 4 = 28 \checkmark$ (Chapter 4.2).

15. B — **55**. The pattern increases by 11 each step (the 11 times table): 11, 22, 33, 44, 55, 66. To verify: $22 - 11 = 11$, $33 - 22 = 11$, all consistent. The missing term between 44 and 66 is $44 + 11 = 55$. Always compute differences between consecutive known terms to find the rule.

16. D — **Start at 200 and subtract 25 each time**. The pattern values are 200, 175, 150, 125, 100, 75 — each term is 25 less than the previous. Differences: $175 - 200 = -25$, $150 - 175 = -25$, all consistent. A complete pattern rule names both the starting value and the operation (Chapter 6.3).

17. C — **49**. Solve $n - 17 = 32$ using the inverse operation: $n = 32 + 17 = 49$. Check by substituting: $49 - 17 = 32 \checkmark$. The inverse of subtraction is addition. Always verify the answer by plugging it back into the original equation (Chapter 7.4).

18. A — **30**. Trace the code: the loop adds 3 six times. Starting at 12: $12 \rightarrow 15 \rightarrow 18 \rightarrow 21 \rightarrow 24 \rightarrow 27 \rightarrow 30$. Or compute directly: $6 \times 3 = 18$ added to 12 gives 30. Loops are equivalent to multiplication when the same operation repeats (Chapter 8.2).

19. D — **$11 + 4 = 11 \times 4$** . Compute both sides: $11 + 4 = 15$ and $11 \times 4 = 44$. Since $15 \neq 44$, this equation is FALSE. The other options are all true: $8 + 8 + 8 = 24 = 8 \times 3$; $25 - 5 = 20 = 5 \times 4$; $12 \times 2 = 24 = 6 \times 4$. Multiplication and addition produce very different results (Chapter 7.2).

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

21. D — **Movie D**. Read the bar graph values: Movie A = 6, Movie B = 9, Movie C = 4, Movie D = 13. The tallest bar represents the most votes, which is Movie D with 13. Always trace from the top of each bar horizontally to the y-axis to read precise values (Chapter 9.5).

22. A — 21 books. Read the pictograph: the Patel family row has 7 book icons. The key states each icon = 3 books, so multiply: $7 \times 3 = 21$ books. Many-to-one correspondence means each picture represents more than one item — always check the key (Chapter 9.4).

23. C — 11. Add all values: $14 + 8 + 11 + 9 + 13 = 55$. Divide by the number of values: $55 \div 5 = 11$. The mean is 11, representing the typical value in the data set. Always count the number of values carefully before dividing the sum (Chapter 10.1).

24. B — 6. Count how many times each value appears: 6 appears 4 times; 9 appears 2 times; 11 and 14 each appear once. The value that appears most often is 6. The mode is the most frequent value, not the largest — careful counting determines the mode (Chapter 10.2).

25. A — Likely. The spinner has 3 orange sections out of 5 total. More than half the spinner is orange, so landing on orange is likely (probable but not certain). It would only be "certain" if all 5 sections were orange. "Equally likely to landing on purple" would require equal counts of each colour (Chapter 10.4).

26. D — 40 students. Add the frequencies for all four drinks: $15 + 8 + 11 + 6 = 40$ students. The total represents every student surveyed. Always verify by adding all rows in the frequency column carefully (Chapter 9.3).

27. B — Unlikely. The bag has 1 green ball out of 10 total ($1 + 9 = 10$). Just 1 of 10 balls is green — far less than half. So drawing green is unlikely (possible but improbable). The other options don't fit: "certain" would need all green; "equally likely" would need 5 of each; "likely" would need more than half (Chapter 10.4).

28. C — 10 votes. From Figure PQ-2: Movie A = 6 votes, Movie C = 4 votes. Add: $6 + 4 = 10$ votes. The phrase "combined" in this context means the total of both categories added together. This is a Level-2 graph-reading task from Chapter 10.3.

29. C — 90 toys. Add the toys collected by all 5 classes: $18 + 22 + 15 + 11 + 24 = 90$ toys. Verify sequentially: $18 + 22 = 40$; $40 + 15 = 55$; $55 + 11 = 66$; $66 + 24 = 90$. Multi-row table summations require careful sequential addition (Chapter 9.3).

30. D — Impossible. A 0% chance means the event will definitely NOT happen — there is no possibility of it occurring. On the Grade 3 probability spectrum, 0% is described as "impossible." The other options describe different probability levels that don't fit (Chapter 10.4).

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

32. A — Pentagonal prism. A pentagonal prism has 2 identical parallel pentagonal bases (each with 5 sides) connected by 5 rectangular side faces. A cube has 6 square faces (not pentagons); a triangular prism has triangular bases; a square pyramid has only 1 base, not 2 (Chapter 11.1).

33. C — 38 cm. Perimeter of a rectangle = $2 \times (\text{length} + \text{width}) = 2 \times (13 + 6) = 2 \times 19 = 38$ cm. Or add all four sides: $13 + 6 + 13 + 6 = 38$ cm. The shortcut formula is faster than adding all sides individually (Chapter 13.2).

34. D — East. A quarter-turn rotates 90 degrees. Two left quarter-turns equal a half-turn (180°), reversing direction. Starting facing west, a half-turn produces facing east. West and east are opposite cardinal directions (Chapter 12.3).

35. B — Millilitres. A juice glass holds roughly 200–300 millilitres — firmly in the millilitre range. Litres are too large (a 1-litre glass would be enormous); grams and kilograms measure mass, not capacity. Only millilitres is appropriate for the capacity of a juice glass (Chapter 13.4).

36. A — 1:15. The hour hand sits between the 1 and the 2, closer to the 1 — so the hour is 1 (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 1:15, or "quarter past one" (Chapter 14.1).

37. D — 1 hour 45 minutes. From 11:50 AM to 12:50 PM is 1 hour. From 12:50 PM to 1:35 PM is 45 minutes (12:50 to 1:00 is 10 minutes; 1:00 to 1:35 is 35 minutes; $10 + 35 = 45$). Total elapsed time: 1 hour + 45 minutes = 1 hour 45 minutes. Crossing the noon boundary requires careful tracking (Chapter 14.3).

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

39. B — 6,000 mL. The relationship: 1 litre = 1,000 millilitres. So 6 litres = $6 \times 1,000 = 6,000$ mL. The other options (60, 600, 60,000) represent different amounts. Always apply the conversion factor 1,000 when moving between litres and millilitres (Chapter 13.4).

40. A — 24 cm. A regular octagon has 8 equal sides. Perimeter = $8 \times \text{side length} = 8 \times 3 = 24$ cm. Or add all eight sides: $3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 24$ cm. The multiplication shortcut works for any regular polygon — multiply the number of sides by the side length (Chapter 13.2).