

# SIMULATION EXAM 13 (75 QUESTIONS)

---

## SESSION A: READING — NARRATIVE TEXT

Read the following selection and answer questions 1–12.

### The First Day

Sam had spent the whole morning pretending he was fine. He had eaten his cereal and put on his new shoes and told his mom he was excited. None of it was true. His chest had been tight since the alarm clock first rang.

He was starting at Riverbend Public School in the middle of October, two months after his old class had already settled in. His family had moved in September because his father had taken a new job at the hospital. Sam had not chosen any of it. He had only been told.

His new homeroom teacher, Mrs. Patel, smiled and gave him a desk near the window. She introduced him to the class, and twenty-five faces turned to look at him at the same time. Sam felt his ears get hot. He looked down at his desk and tried to seem calm.

The morning passed in a blur of unfamiliar names and unfamiliar rules. When the bell rang for lunch, Sam took his lunch box out into the hallway and stood there, not sure where to go. The other students were already moving in confident, talking pairs toward the cafeteria, and nobody was looking at him.

He walked slowly to the cafeteria and stood in the doorway, scanning the long tables. Every seat seemed taken by someone laughing or chatting. He felt his throat tighten in a way that meant if he were not careful, he might cry.

"Hey. You can sit with us."

Sam turned. A short girl with a long braid and a green jacket was holding up her hand and waving him toward a half-empty table near the window. Two other students sat with her, eating sandwiches.

"I'm Priya," she said when he sat down. She introduced the others as Marcus and Daniel. "You're the new kid, right? It's okay. I was new last year. Everybody stared at me for a week. Then they got over it."

Sam smiled, surprised that the smile felt real. He opened his lunch box, took out his sandwich, and started telling them about his old school, which suddenly did not feel quite so far away.

When the bell rang to end lunch, Priya walked with him back to class so that he would not get lost. The afternoon was easier. The hard part, Sam realized, had been getting to one table where someone said hello.

1. How did Sam feel on the morning of his first day at the new school?

- A. Nervous and tense, even though he pretended that he was fine
- B. Excited because his father had a new job at the hospital nearby
- C. Confident because he had visited the school once before
- D. Angry that his parents had moved the family without asking him first

2. Why had Sam's family moved to a new town?

- A. His mother had been promoted to a new role at her company
- B. His father had taken a new job at the hospital
- C. They had been chosen to live closer to his grandparents
- D. Their old apartment building was being torn down

3. When did Sam start at Riverbend Public School?

- A. On the very first day of the school year in September

- B. At the start of the spring term after the winter break
  - C. In the last week before the summer holidays began
  - D. In the middle of October, two months after the year had started
4. What did Sam's new teacher, Mrs. Patel, do when he arrived?
- A. She made him stand at the front of the class and tell about himself
  - B. She put him in a seat at the back of the room and ignored him
  - C. She gave him a desk near the window and introduced him to the class
  - D. She quizzed him to find out what his old school had already taught
5. How did Sam feel when twenty-five classmates turned to look at him?
- A. Proud, because he was used to being the centre of attention
  - B. Embarrassed, with his ears getting hot, while trying to seem calm
  - C. Disappointed that none of the students said hello to him out loud
  - D. Frightened to the point of nearly running back out of the classroom
6. Where did Sam stand when the lunch bell rang?
- A. In the hallway, holding his lunch box, unsure of where to go
  - B. In the principal's office, asking for directions to the cafeteria
  - C. At his desk near the window, waiting for someone to come for him
  - D. In the library, eating his lunch by himself between the bookshelves
7. How did Sam feel as he scanned the cafeteria looking for a seat?
- A. Relieved, because he saw friendly faces all around him

- B. Bored, because no one in the room seemed interesting
- C. So tense that his throat tightened and he was close to crying
- D. Calm, knowing he could simply eat at a table on his own

8. Who first invited Sam to sit at a lunch table?

- A. Marcus, the tallest boy at the table
- B. Daniel, who had also recently moved to town
- C. Mrs. Patel, who came to the cafeteria to find him
- D. Priya, a short girl with a long braid and a green jacket

9. What did Priya tell Sam about being new at school?

- A. That nobody at the school would ever truly accept him as a friend
- B. That she had been new the year before and people had eventually moved on
- C. That he should keep to himself for the first month and let people approach him
- D. That he should ignore anyone who stared at him for the first few weeks

10. What did Sam do after Priya invited him to the table?

- A. He took out his sandwich and started telling them about his old school
- B. He said thank you and left to eat in the hallway by himself
- C. He asked them to switch tables so he could see the cafeteria better
- D. He hurried to finish his lunch so he could get back to class early

11. What does the ending of the story MOST clearly show?

- A. Sam wishes he had never moved to this new town at all



---

---

---

---

**SESSION B: READING — INFORMATIONAL TEXT**

Read the following selection and answer questions 13–18.

**Why Some Animals Hibernate**

When winter arrives in Canada, food becomes harder for many animals to find. Snow covers the ground, the leaves fall, and the cold makes it dangerous to stay active. Some animals migrate to warmer places. Some grow thick fur and keep going. But others choose a different strategy. They sleep through the worst of it. This long winter sleep is called hibernation.

Hibernation is not the same as a regular nap. During hibernation, an animal's whole body slows down. Its heart, which might normally beat 200 times a minute, can slow to only 5 or 10 beats a minute. Its breathing slows too, and its body temperature drops, sometimes by ten or fifteen degrees Celsius. With so little activity, the animal uses very little energy, which means it can survive for months without eating.

In the fall, animals that hibernate spend weeks getting ready. A groundhog eats almost non-stop in September and October, building up a thick layer of fat under its skin. This stored fat will become its only food supply for the long sleep ahead. Bats, ground squirrels, and chipmunks make similar preparations, finding sheltered burrows, hollow trees, or caves where the temperature will not drop too far below zero.

Some animals do not hibernate, but enter a lighter version of it called torpor. Bears, for example, lower their heart rate and breathing in winter, but their body temperature stays closer to normal. A mother bear can even wake up enough during torpor to give birth to her cubs and care for them inside the den.

The most surprising hibernators may be certain frogs. Wood frogs in northern Canada can actually allow parts of their bodies to freeze in winter. The water in their cells fills with a kind of natural antifreeze that protects the cells from damage. In spring, the frog thaws out, its heart starts beating again, and it hops away.

When spring returns, hibernating animals slowly wake. Their heart rates speed up, their bodies warm again, and they leave their dens hungry and thin. The sleep that looked like an ending was really a way of waiting — a clever solution to a long and difficult winter.

13. What is the MAIN IDEA of the passage?

- A. Bears are the only animals that hibernate during the cold winter months
- B. Hibernation is a kind of long nap that does not change an animal's body
- C. Animals that hibernate eat less in the fall to prepare for the spring
- D. Hibernation is a way for animals to survive winter when food is scarce

14. According to the passage, what happens to a hibernating animal's HEART RATE?

- A. It slows from about 200 beats per minute to only 5 or 10
- B. It stays exactly the same as it is when the animal is awake
- C. It speeds up so the animal can keep warm in the cold
- D. It stops completely until the animal wakes up in the spring

15. According to the passage, what do GROUNDHOGS do in the fall to prepare for hibernation?

- A. They dig long tunnels deep beneath the frozen ground
- B. They eat almost non-stop to build up a thick layer of fat
- C. They gather seeds and store them in a hidden burrow
- D. They migrate south to spend the winter in a warmer place

16. According to the passage, how is a BEAR'S winter sleep DIFFERENT from true hibernation?

- A. A bear's heart rate does not slow down at all during the winter
- B. A bear sleeps for only a few hours at a time during the winter
- C. A bear's body temperature stays closer to normal during the sleep
- D. A bear's breathing speeds up instead of slowing down for winter

17. According to the passage, what is SURPRISING about how wood frogs spend the winter?

- A. They burrow deep into the ground beneath a layer of snow
- B. They fly south with the birds when the cold weather arrives
- C. They turn a different colour to blend in with the snow
- D. They allow parts of their bodies to freeze, then thaw out in spring

18. OPEN-RESPONSE

Explain TWO ways an animal's BODY changes during hibernation. Use specific details from the passage to support your answer.

---

---

---

---

---

---

---

---

---

---



- B. Please bring your homework with you tomorrow morning.
- C. I will bring my homework to school every single day.
- D. What a great homework assignment our teacher gave us!

21. Which sentence uses the word "than" CORRECTLY?

- A. My brother is taller then me by almost ten centimetres
- B. After my brother is taller, then we will compare our heights
- C. Then my brother is taller, so we will check our heights again
- D. My brother is taller than me by almost ten centimetres

22. Which sentence uses an APPOSITIVE correctly with commas?

- A. My teacher Mrs. Singh always smiles in the morning
- B. My teacher Mrs Singh, always smiles in the morning
- C. My teacher, Mrs. Singh, always smiles in the morning
- D. My teacher, Mrs. Singh always smiles in the morning

23. Which word in this sentence is a NOUN?

"The colourful kite flew high above the field."

- A. Kite
- B. Flew
- C. High
- D. Colourful

24. Which sentence shows CORRECT subject-verb agreement?

- A. The bag of marbles are sitting on the table by the door
- B. My friends and I plays soccer in the park on Sundays
- C. The dogs in our neighbourhood barks at every passing car
- D. Each of the children was given a small piece of cake

25. Which sentence uses a COMMA correctly to set off an introductory clause?

- A. After we ate dinner we played a board game together
- B. After we ate dinner, we played a board game together
- C. After we ate, dinner we played a board game together
- D. After, we ate dinner we played a board game together

26. Which sentence uses the word "its" CORRECTLY in both places?

- A. The cat licked it's paw after eating its dinner
- B. The cat licked its' paw after eating its' dinner
- C. The cat licked its paw after eating its dinner
- D. The cat licked its paw after eating it's dinner

27. Which sentence is a COMPOUND sentence?

- A. The eager students lined up by the door before the bell rang
- B. After the bell rang, the eager students lined up by the door
- C. Although the bell rang, the eager students stood still in line
- D. The bell rang, and the eager students lined up by the door

28. Which sentence uses CORRECT capitalization for a book title?

- A. I just finished reading Charlotte's Web for the second time
- B. I just finished reading charlotte's web for the second time
- C. I just finished Reading Charlotte's Web for the Second Time
- D. I just finished reading Charlotte's web for the second Time

29. Which sentence is written in the FUTURE tense?

- A. The students walked home together after the rainstorm ended
- B. The students are walking home together in the rainstorm
- C. The students will walk home together after the rainstorm ends
- D. The students walk home together every day after school

30. Which sentence uses a METAPHOR?

- A. The classroom was as quiet as a library during the test
- B. The classroom was a battlefield during the spelling bee
- C. The classroom was very loud during the recess break today
- D. The classroom was filled with eager students that morning

31. OPEN-RESPONSE — WRITING PROMPT

If you could learn one NEW SKILL this year, what would it be?

Describe the skill you would like to learn, explain WHY you would like to learn it, and tell how learning this skill would change your daily life.

**Your writing should:**





- B. 477
- C. 487
- D. 497

34. Which fraction is EQUIVALENT to  $\frac{9}{12}$ ?

- A.  $\frac{3}{4}$
- B.  $\frac{9}{24}$
- C.  $\frac{2}{3}$
- D.  $\frac{12}{9}$

35. Write 0.45 as a fraction in SIMPLEST form.

- A.  $\frac{45}{100}$
- B.  $\frac{4}{5}$
- C.  $\frac{9}{20}$
- D.  $\frac{45}{10}$

36. Which decimal is GREATEST?

- A. 0.8
- B. 0.099
- C. 0.18
- D. 0.079

37. What is 75% of 60?

- A. 30

- B. 60
- C. 75
- D. 45

38. What is  $9.2 - 3.45$ ?

- A. 5.45
- B. 6.75
- C. 5.75
- D. 6.25

39. What is  $528 \div 8$ ?

- A. 56
- B. 66
- C. 76
- D. 84

40. Solve for  $n$  in the equation  $n - 9 = 23$ .

- A. 32
- B. 14
- C. 23
- D. 9

41. What is the value of  $5x + 4$  when  $x = 6$ ?

- A. 30

- B. 34
- C. 11
- D. 24

42. What is the next term in this pattern: 100, 91, 82, 73, \_\_\_ ?

- A. 60
- B. 70
- C. 72
- D. 64

43. Look at the table below.

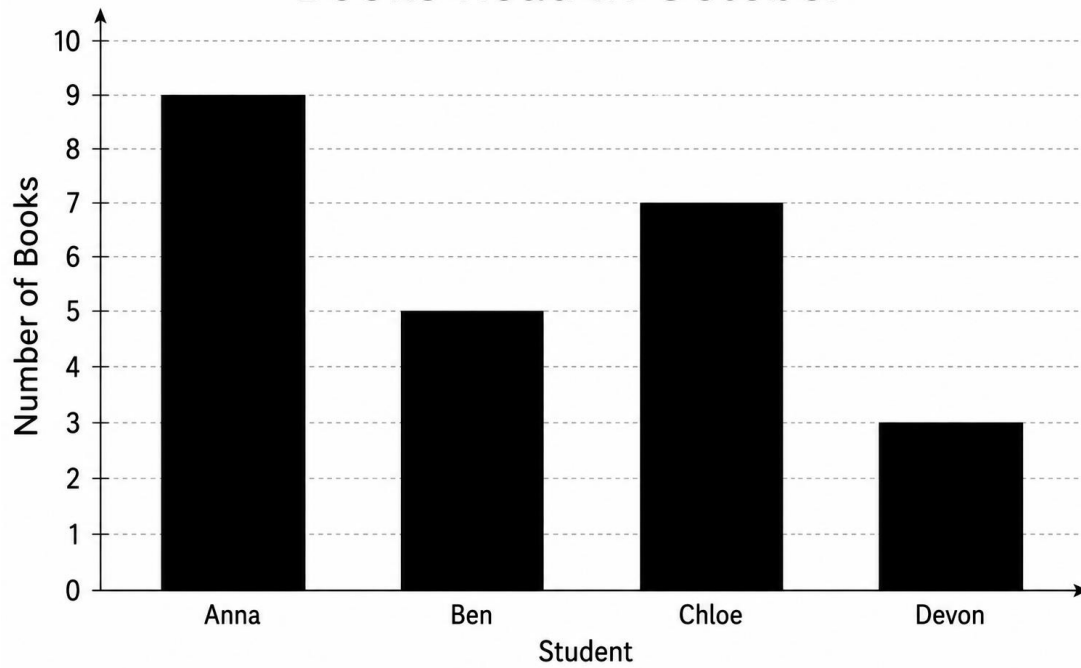
| n | y  |
|---|----|
| 1 | 6  |
| 2 | 11 |
| 3 | 16 |
| 4 | 21 |

Which equation describes the relationship between n and y?

- A.  $y = n + 5$
- B.  $y = 6n$
- C.  $y = 5n + 1$
- D.  $y = 5n$

44. Look at the bar graph below showing books read by four Grade 6 students in one month.

## Books Read in October



Which student read the MOST books in October?

- A. Anna
- B. Chloe
- C. Ben
- D. Devon

45. Find the MEAN of these numbers: 5, 9, 7, 11, 8.

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

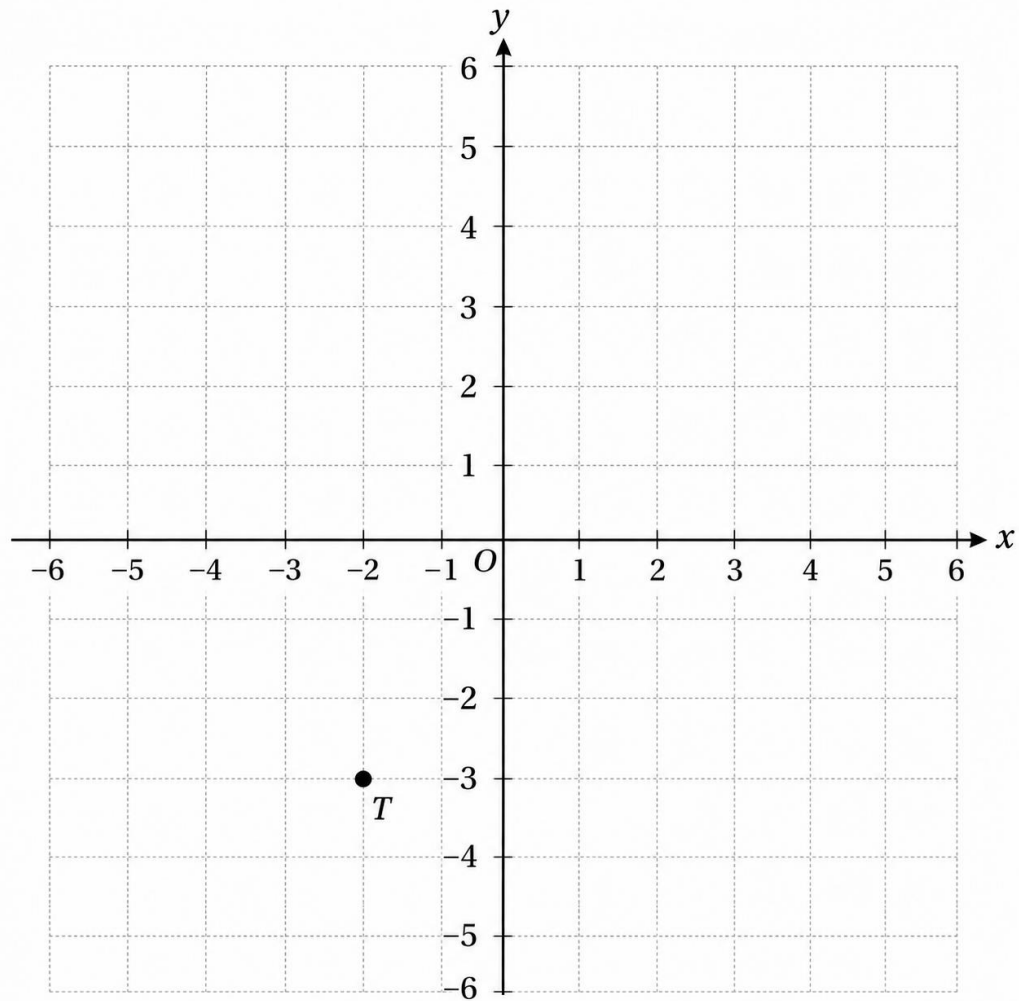
46. A square has a perimeter of 36 cm. What is the LENGTH of one side?

- A. 6 cm
- B. 18 cm
- C. 12 cm
- D. 9 cm

47. Two angles are SUPPLEMENTARY. If one angle measures  $70^\circ$ , what is the measure of the OTHER angle?

- A.  $20^\circ$
- B.  $110^\circ$
- C.  $90^\circ$
- D.  $130^\circ$

48. Look at the coordinate plane below.



What are the COORDINATES of point T?

- A.  $(-2, -4)$
- B.  $(-4, -2)$
- C.  $(2, -4)$
- D.  $(-2, 4)$

49. How many EDGES does a triangular prism have?

- A. 6
- B. 9

- C. 12
- D. 8

50. Which of the following describes a SAVINGS goal that is most likely to be achieved?

- A. Saving \$500 in one weekend without a plan or budget
- B. Saving any leftover money at the end of each month
- C. Saving as much money as possible whenever you remember
- D. Saving \$5 each week for ten weeks to buy a \$50 item

**SESSION D: MATHEMATICS**

51. What is  $758 + 246$ ?

- A. 904
- B. 1,014
- C. 1,004
- D. 994

52. What is  $\frac{2}{3} \times 6$ ?

- A. 6
- B. 4
- C.  $\frac{8}{3}$
- D.  $\frac{12}{9}$

53. What is 30% of 90?

A. 27

B. 60

C. 90

D. 30

54. What is  $0.6 \times 4$ ?

A. 0.24

B. 24

C. 6.4

D. 2.4

55. Which is the LARGEST fraction?

A.  $\frac{2}{3}$

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

C.  $\frac{5}{6}$

D.  $\frac{1}{2}$

56. Which ratio is EQUIVALENT to 4:6?

A. 2:4

B. 6:9

C. 6:8

D. 8:10

57. A spinner has 10 equal sections: 1 red, 2 blue, 3 yellow, and 4 green. What is the probability of landing on GREEN?

- A.  $1/10$
- B.  $2/10$
- C.  $3/10$
- D.  $4/10$

58. Solve for  $k$  in the equation  $3k + 2 = 17$ .

- A. 5
- B. 6
- C. 19
- D. 15

59. What is the value of  $8 - 2y$  when  $y = 3$ ?

- A. 4
- B. 14
- C. 2
- D. 6

60. Which expression represents "four less than twice a number  $n$ "?

- A.  $4 - 2n$
- B.  $2n - 4$
- C.  $2(n - 4)$
- D.  $4n - 2$

61. What is the 7th term in this sequence: 4, 7, 10, 13, \_\_\_\_, \_\_\_\_, \_\_\_\_ ?

- A. 19
- B. 21
- C. 23
- D. 22

62. Look at the pseudocode below:

```
SET score = 100
FOR each number from 1 to 3:
    Subtract 8 from score
Display score
```

What is the FINAL value of score?

- A. 76
- B. 96
- C. 84
- D. 92

63. Find the MEDIAN of these numbers: 14, 9, 20, 17, 11, 23, 8.

- A. 17
- B. 11
- C. 14
- D. 15

64. Find the RANGE of these prices: \$12, \$25, \$8, \$30, \$15, \$20.

- A. \$20
- B. \$30
- C. \$25
- D. \$22

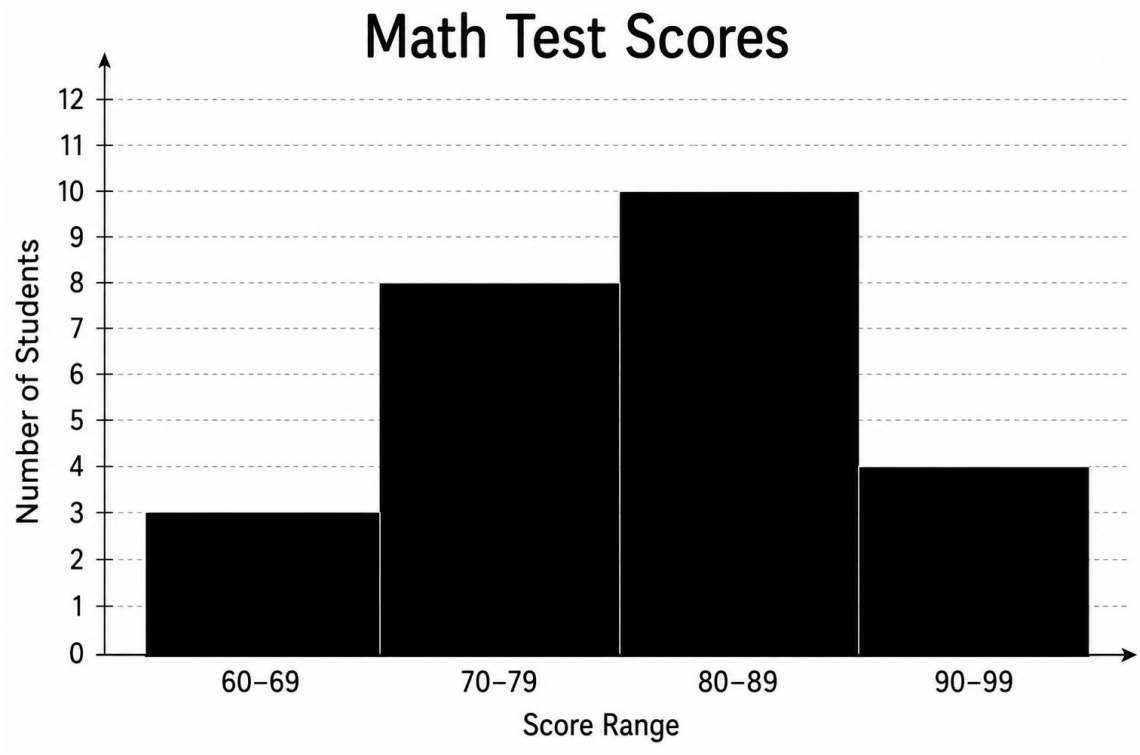
65. Find the MODE of this data set: 7, 4, 9, 7, 2, 7, 6, 4.

- A. 4
- B. 7
- C. 6
- D. 9

66. A bag contains 6 yellow marbles, 3 blue marbles, and 1 green marble. What is the probability of drawing a YELLOW marble?

- A.  $\frac{6}{10}$
- B.  $\frac{3}{10}$
- C.  $\frac{1}{10}$
- D.  $\frac{4}{10}$

67. Look at the histogram below showing math test scores in a Grade 6 class.



How many students scored 80–89 on the test?

- A. 3 students
- B. 8 students
- C. 10 students
- D. 4 students

68. What is the VOLUME of a rectangular prism that is 5 cm long, 3 cm wide, and 4 cm tall?

- A.  $35 \text{ cm}^3$
- B.  $60 \text{ cm}^3$
- C.  $24 \text{ cm}^3$
- D.  $12 \text{ cm}^3$

69. A parallelogram has a base of 12 cm and a height of 5 cm. What is its AREA?

- A.  $17 \text{ cm}^2$
- B.  $34 \text{ cm}^2$
- C.  $30 \text{ cm}^2$
- D.  $60 \text{ cm}^2$

70. A triangle has two angles measuring  $45^\circ$  and  $65^\circ$ . What is the measure of the THIRD angle?

- A.  $70^\circ$
- B.  $80^\circ$
- C.  $90^\circ$
- D.  $110^\circ$

71. How many millilitres are in 3 litres?

- A. 30 mL
- B. 300 mL
- C. 3,000 mL
- D. 0.003 mL

72. A point is located at (3, 5). It is ROTATED  $180^\circ$  around the origin. What are its new coordinates?

- A. (5, 3)
- B. (3, -5)
- C. (-3, 5)
- D. (-3, -5)

73. A small soccer ball costs \$12. The store offers a 25% discount. What is the SALE PRICE?

- A. \$3
- B. \$9
- C. \$15
- D. \$25

74. Tomas earns \$40 a week from delivering papers. He spends \$15 on snacks and saves the REST. How much does he save each week?

- A. \$25
- B. \$40
- C. \$55
- D. \$15

75. Why might it be a GOOD idea to compare prices at different stores before buying something?

- A. Stores always have exactly the same prices for every product
- B. The largest store will always have the lowest possible prices
- C. Different stores may sell the same item at different prices
- D. Comparing prices wastes time that could be used in other ways

## ANSWER KEY & DETAILED EXPLANATIONS — SIMULATION EXAM 13

- 1. A** — The opening paragraph states: "Sam had spent the whole morning pretending he was fine... His chest had been tight since the alarm clock first rang." The pretending and the tight chest both signal nervousness underneath a calm surface.
- 2. B** — The passage explains the move directly: "His family had moved in September because his father had taken a new job at the hospital." The father's hospital job is the stated reason for the move.
- 3. D** — The passage states the timing exactly: "He was starting at Riverbend Public School in the middle of October, two months after his old class had already settled in." Both the month and the two-month gap are spelled out.
- 4. C** — Mrs. Patel's actions appear in one sentence: "Mrs. Patel, smiled and gave him a desk near the window. She introduced him to the class." Both the window-side desk and the class introduction are part of her welcome.
- 5. B** — Sam's reaction is described directly: "Sam felt his ears get hot. He looked down at his desk and tried to seem calm." Hot ears (embarrassment) combined with a calm exterior match option B.
- 6. A** — The hallway scene is described in the same sentence: "Sam took his lunch box out into the hallway and stood there, not sure where to go." The hallway, the lunch box, and the uncertainty are all there.
- 7. C** — Sam's emotional state in the cafeteria appears in this line: "He felt his throat tighten in a way that meant if he were not careful, he might cry." The throat tightness and being close to crying both match.
- 8. D** — The girl who invited Sam is described in detail: "A short girl with a long braid and a green jacket was holding up her hand and waving him toward a half-empty table." Her name (Priya) is given in the next paragraph.
- 9. B** — Priya's words in dialogue are: "I was new last year. Everybody stared at me for a week. Then they got over it." Being new the year before and people moving on match option B.
- 10. A** — Sam's first action after sitting down is described directly: "He opened his lunch box, took out his sandwich, and started telling them about his old school." Taking out the sandwich and talking about his old school both match the option.
- 11. C** — The story closes with Sam's realization: "The hard part, Sam realized, had been getting to one table where someone said hello." This insight captures how one act of kindness made the rest of his day easier.
- 12. OPEN-RESPONSE** — A strong Code 40 response traces Sam's emotional arc: morning tension and pretending, embarrassment in front of the class, mounting panic at the cafeteria doorway, surprised relief at Priya's invitation, and finally calm connection by the afternoon. Code 40 responses cite specific details

(the tight chest, the hot ears, the throat tightening, the real smile, walking back to class together) and explain how each shift happened.

**13. D** — The opening sentence frames the problem ("food becomes harder for many animals to find") and the rest of the passage describes hibernation as a survival strategy. Option D captures both the problem (scarce winter food) and the solution (hibernation).

**14. A** — The passage states the heart rate change directly: "Its heart, which might normally beat 200 times a minute, can slow to only 5 or 10 beats a minute." Both the normal rate (200) and the hibernation rate (5–10) appear in option A.

**15. B** — The passage describes groundhog preparation: "A groundhog eats almost non-stop in September and October, building up a thick layer of fat under its skin." Non-stop eating and a fat layer are the two key fall preparations.

**16. C** — The bear paragraph explains: "Bears, for example, lower their heart rate and breathing in winter, but their body temperature stays closer to normal." The closer-to-normal body temperature is what distinguishes torpor from true hibernation.

**17. D** — The wood frog paragraph states: "Wood frogs in northern Canada can actually allow parts of their bodies to freeze in winter... In spring, the frog thaws out, its heart starts beating again, and it hops away." Partial freezing followed by spring thaw is the surprising survival method.

**18. OPEN-RESPONSE** — A strong Code 40 response identifies two specific body changes during hibernation: heart rate slowing dramatically (from 200 to 5–10 beats per minute), breathing slowing, body temperature dropping by 10–15°C, or use of stored body fat instead of food. Code 40 responses give two clear changes with passage-supported numbers or details.

**19. B** — When listing three or more items, commas separate the items (Canadian style commonly includes the serial comma before "and"), and "farmers' market" uses a plural possessive apostrophe. Option B correctly applies both conventions. The other options omit the commas, misplace them, or use a colon incorrectly.

**20. A** — An interrogative sentence asks a question and ends with a question mark. Option A asks a direct question. Option B is imperative (a command), C is declarative (a statement), and D is exclamatory.

**21. D** — "Than" is used to make comparisons, while "then" refers to time or sequence. Option D correctly uses "than" to compare brother's height to "me." The other options use "then" where "than" is needed.

**22. C** — An appositive is a noun phrase that renames the noun beside it ("Mrs. Singh" renames "my teacher") and is set off by commas on BOTH sides. Option C correctly places commas before and after "Mrs. Singh." The other options omit one or both commas or are missing a period.

**23. A** — A noun names a person, place, thing, or idea. "Kite" is a thing — a concrete noun in the sentence. "Flew" is a verb, "high" describes how it flew (adverb), and "colourful" describes the kite (adjective).

**24. D** — A singular subject takes a singular verb. "Each" is singular and pairs correctly with the singular verb "was." In the other options, singular subjects ("bag," "I" combined with friends as plural, "dogs" already plural) are paired with mismatching verbs.

**25. B** — When a dependent clause begins a sentence, a comma should follow it before the main clause begins. Option B places the comma correctly after "After we ate dinner." The other options omit the comma or place it inside the dependent clause.

**26. C** — "Its" (no apostrophe) is the possessive form, while "it's" is a contraction for "it is." Option C correctly uses "its" twice for possession (the cat's paw, the cat's dinner). The other options misuse the apostrophe in one or both spots, or invent a non-standard form ("its").

**27. D** — A compound sentence joins two independent clauses with a coordinating conjunction (such as "and," "but," or "or"). Option D joins "The bell rang" and "the eager students lined up by the door" with a comma and "and." The other options use subordinators ("before," "after," "although"), making them complex sentences.

**28. A** — Book titles are capitalized: capitalize the first word, last word, and all important words in between. "Charlotte's Web" correctly capitalizes both words. The other options either skip the capitalization, over-capitalize ordinary words, or miss one word of the title.

**29. C** — Future tense uses "will" + base verb to describe an action that has not yet happened. Option C uses "will walk" to express a future action. Option A uses past tense (walked), B uses present continuous (are walking), and D uses simple present (walk).

**30. B** — A metaphor compares two unlike things directly, without using "like" or "as." Option B says the classroom WAS a battlefield, equating one thing to the other. Option A uses "as" (making it a simile), and C and D describe the classroom literally with no comparison.

**31. OPEN-RESPONSE** — A strong Code 30 or 40 response names ONE specific skill (not a vague category), explains a personal reason for wanting to learn it, and describes how daily life would change once mastered. The strongest responses move beyond a label ("I want to learn coding") to motivation ("so I could build a game my younger brother and I could play together") and concrete change ("instead of just playing games, I would be the one inventing them").

**32. D** — The digit 1 in 6,108,742 sits in the hundred thousands place (the sixth position from the right). Its value is  $1 \times 100,000 = 100,000$ . Place value increases by a factor of ten with each position to the left.

**33. B** — Split one factor to use easier numbers:  $50 \times 9 = 450$  and  $3 \times 9 = 27$ . Add the partial products:  $450 + 27 = 477$ . Splitting one factor into tens and ones is a reliable mental-math approach.

**34. A** — Equivalent fractions are created by dividing the numerator and denominator by the same number:  $9 \div 3 = 3$  and  $12 \div 3 = 4$ , giving  $\frac{3}{4}$ . The other options do not preserve the proportional relationship.

- 35. C** — Convert the decimal to a fraction with denominator 100:  $0.45 = 45/100$ . Divide both numerator and denominator by 5:  $45 \div 5 = 9$  and  $100 \div 5 = 20$ , giving  $9/20$  in simplest form. The numerator and denominator share no common factor greater than 1.
- 36. A** — Compare decimals by aligning the decimal points and looking at the tenths place first: 0.8 has 8 in the tenths place, which is greater than 1 (option C), 0 (option B), and 0 (option D). The greater tenths digit wins.
- 37. D** — Convert the percent to a decimal and multiply:  $75\% = 0.75$ , then  $0.75 \times 60 = 45$ . As a check, 75% is three-quarters, and three-quarters of 60 is 45.
- 38. C** — Align the decimals before subtracting:  $9.20 - 3.45 = 5.75$ . Writing 9.2 as 9.20 makes the place-value columns line up cleanly for borrowing.
- 39. B** — Divide step by step:  $8 \times 60 = 480$ , and  $528 - 480 = 48$ . Then  $48 \div 8 = 6$ , so the quotient is  $60 + 6 = 66$ . As a check,  $8 \times 66 = 528$ .
- 40. A** — To isolate  $n$ , add 9 to both sides:  $n = 23 + 9 = 32$ . The inverse operation undoes the subtraction and keeps the equation balanced.
- 41. B** — Substitute  $x = 6$  into  $5x + 4$ :  $5(6) + 4 = 30 + 4 = 34$ . Order of operations requires multiplication before addition.
- 42. D** — The pattern subtracts 9 each time: 100, 91, 82, 73, and then  $73 - 9 = 64$ . A constant difference identifies the pattern as subtractive with step 9.
- 43. C** — Test the equation  $y = 5n + 1$  against each row:  $5(1) + 1 = 6 \checkmark$ ,  $5(2) + 1 = 11 \checkmark$ ,  $5(3) + 1 = 16 \checkmark$ ,  $5(4) + 1 = 21 \checkmark$ . The equation matches every row of the table.
- 44. A** — Reading the bar graph, Anna's bar reaches 9 books, the tallest of the four bars. The other students show 5 (Ben), 7 (Chloe), and 3 (Devon) — all fewer than Anna.
- 45. C** — Add the five numbers:  $5 + 9 + 7 + 11 + 8 = 40$ . Divide by the number of values:  $40 \div 5 = 8$ . The mean is the total divided by the count.
- 46. D** — Perimeter of a square =  $4 \times$  side length, so side length = perimeter  $\div 4 = 36 \div 4 = 9$  cm. Because all four sides of a square are equal, dividing the perimeter by four gives one side.
- 47. B** — Two angles are supplementary when they add to  $180^\circ$ . Subtract the known angle:  $180^\circ - 70^\circ = 110^\circ$ . Supplementary angles form a straight line when placed together.
- 48. A** — Point T sits 2 units to the left of the  $y$ -axis (so  $x = -2$ ) and 4 units below the  $x$ -axis (so  $y = -4$ ), giving the coordinates  $(-2, -4)$ . Coordinates are always written in the order  $(x, y)$ .

- 49. B** — A triangular prism has two triangular faces (3 edges each = 6 edges) and three rectangular faces connecting them (3 more edges), for a total of 9 edges. As a check, Euler's relation  $V - E + F = 2$  gives  $6 - 9 + 5 = 2 \checkmark$ .
- 50. D** — A savings goal works best when it is specific, measurable, achievable, and time-bound. Option D includes a clear amount (\$50), a clear weekly contribution (\$5), and a clear deadline (10 weeks). The other options lack one or more of these elements, making them less likely to succeed.
- 51. C** — Add the numbers in columns from right to left, regrouping as needed:  $758 + 246 = 1,004$ . As a check, round to  $800 + 200 = 1,000$ , close to the actual answer.
- 52. B** — Multiplying a fraction by a whole number multiplies the numerator while keeping the denominator:  $\frac{2}{3} \times 6 = \frac{12}{3} = 4$ . As a check,  $\frac{2}{3}$  added six times also equals  $\frac{12}{3} = 4$ .
- 53. A** — Convert the percent to a decimal and multiply:  $30\% = 0.30$ , then  $0.30 \times 90 = 27$ . As a check, 10% of 90 is 9, so 30% is  $3 \times 9 = 27$ .
- 54. D** — Multiply as if there were no decimal:  $6 \times 4 = 24$ . The factor 0.6 has one decimal place, so the answer has one decimal place: 2.4. Counting decimal places in the factors gives the placement in the answer.
- 55. C** — Convert all fractions to a common denominator of 12:  $\frac{2}{3} = \frac{8}{12}$ ,  $\frac{3}{4} = \frac{9}{12}$ ,  $\frac{5}{6} = \frac{10}{12}$ ,  $\frac{1}{2} = \frac{6}{12}$ . The largest is  $\frac{10}{12}$ , which equals  $\frac{5}{6}$ .
- 56. B** — Equivalent ratios are created by multiplying both terms by the same number. Simplify 4:6 by dividing both by 2 to get 2:3. Among the options, 6:9 also simplifies to 2:3 (dividing both by 3), so the two ratios are equivalent.
- 57. D** — Total sections =  $1 + 2 + 3 + 4 = 10$ . Favourable outcomes (green) = 4, so the probability of landing on green =  $\frac{4}{10}$ . Probability is favourable outcomes over total outcomes.
- 58. A** — Isolate k step by step: subtract 2 from both sides to get  $3k = 15$ , then divide both sides by 3 to get  $k = 5$ . Inverse operations applied in reverse order undo the original operations.
- 59. C** — Substitute  $y = 3$  into  $8 - 2y$ :  $8 - 2(3) = 8 - 6 = 2$ . Order of operations requires multiplication before subtraction.
- 60. B** — "Twice a number n" translates to  $2n$ , and "four less than" means subtract 4:  $2n - 4$ . The order matters: "four less than twice n" places the  $-4$  after the doubling, not before or grouped.
- 61. D** — The pattern adds 3 each time: 4, 7, 10, 13, 16, 19, 22. The 7th term is 22. A constant difference of 3 identifies the pattern as additive with that step.
- 62. A** — Trace through the loop, subtracting 8 from score at each of the 3 iterations:  $100 - 8 = 92$ ,  $92 - 8 = 84$ ,  $84 - 8 = 76$ . The final displayed value is 76.

- 63. C** — Arrange the values in order: 8, 9, 11, 14, 17, 20, 23. The median is the middle value, which is 14. For seven values, the median is the 4th value when sorted.
- 64. D** — Range equals the largest value minus the smallest value. The highest price is \$30 and the lowest is \$8, so the range is  $\$30 - \$8 = \$22$ .
- 65. B** — The mode is the value that appears most often in a data set. The number 7 appears three times — more than any other value — making it the mode.
- 66. A** — Total marbles =  $6 + 3 + 1 = 10$ . Favourable outcomes (yellow) = 6, so the probability of drawing a yellow marble is  $6/10$ . Probability is favourable outcomes over total outcomes.
- 67. C** — Reading the histogram, the 80–89 bar reaches a height of 10 students, the tallest bar in the chart. Each interval shows the number of students whose scores fell in that range.
- 68. B** — Volume of a rectangular prism = length  $\times$  width  $\times$  height =  $5 \times 3 \times 4 = 60 \text{ cm}^3$ . The unit is cubed because volume measures three-dimensional space.
- 69. D** — Area of a parallelogram = base  $\times$  height =  $12 \times 5 = 60 \text{ cm}^2$ . The formula uses the perpendicular height, not the slanted side. The unit is squared because area measures two-dimensional space.
- 70. A** — The interior angles of any triangle sum to  $180^\circ$ . Subtract the two known angles:  $180^\circ - 45^\circ - 65^\circ = 70^\circ$ . This rule holds regardless of triangle type.
- 71. C** — Since 1 litre equals 1,000 millilitres, multiply by 1,000 to convert:  $3 \times 1,000 = 3,000 \text{ mL}$ . Moving from a larger unit to a smaller unit requires multiplication.
- 72. D** — A  $180^\circ$  rotation around the origin changes the sign of BOTH coordinates:  $(x, y) \rightarrow (-x, -y)$ . Applied to  $(3, 5)$ : the new coordinates are  $(-3, -5)$ . A  $180^\circ$  rotation lands the point on the opposite side of the origin.
- 73. B** — First find the discount: 25% of \$12 =  $0.25 \times \$12 = \$3$ . Subtract the discount from the original price:  $\$12 - \$3 = \$9$ . The sale price is what the customer pays after the discount.
- 74. A** — Subtract spending from earnings to find what is left for savings:  $\$40 - \$15 = \$25$ . Whatever income remains after expenses is what can be saved each week.
- 75. C** — Stores often price the same item differently because of their location, supplier, sales, or business model. Comparing prices helps the buyer find the lowest price and save money. The other options describe assumptions that do not match how stores actually work.