

SNAP Quantitative, Data Interpretation and Data Sufficiency

Sample Paper – 5

Duration: 20 Minutes

Maximum Marks: 20

Instructions

- This paper contains **20** Multiple Choice Questions (Single Correct Answer), modelled on the Quantitative, Data Interpretation and Data Sufficiency section of **SNAP** (Symbiosis National Aptitude Test).
- Each correct answer carries **+1 mark**. **0.25 marks** are deducted for every wrong answer. Unattempted questions carry no penalty.
- Only **one** option is correct. Choose the most appropriate answer.
- SNAP is a computer-based test with no sectional time limit; attempt this practice paper in one timed sitting of about **20 minutes**.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Part A: Arithmetic

- Q1.** A shirt priced at Rs. 800 is sold after two successive discounts of 10% and 20%. What is its final selling price?
- (A) Rs. 560
(B) Rs. 600
(C) Rs. 576
(D) Rs. 640
- Q2.** In a class of 60 students, 40% are girls. How many boys are there in the class?
- (A) 24



- (B) 30
- (C) 36
- (D) 40

Q3. A shopkeeper sells an article for Rs. 720 and incurs a loss of 10%. What was the cost price of the article?

- (A) Rs. 780
- (B) Rs. 800
- (C) Rs. 792
- (D) Rs. 750

Q4. The average of 6 numbers is 15. If each number is increased by 4, what is the new average?

- (A) 15
- (B) 19
- (C) 21
- (D) 60

Q5. A car travels 180 km in 3 hours. What is its average speed in km/h?

- (A) 60
- (B) 55
- (C) 45
- (D) 90

Q6. If 15% of a number is 45, what is the number?

- (A) 250
- (B) 275
- (C) 300
- (D) 320

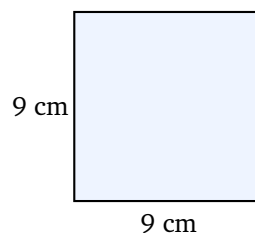


Part B: Algebra and Number System

- Q7.** If $a - \frac{1}{a} = 3$, what is the value of $a^2 + \frac{1}{a^2}$?
- (A) 11
(B) 9
(C) 7
(D) 13
- Q8.** The sum of two consecutive integers is 45. What is the larger of the two integers?
- (A) 22
(B) 23
(C) 24
(D) 21
- Q9.** Solve for x : $5x + 3 = 3x + 11$.
- (A) 2
(B) 6
(C) 8
(D) 4

Part C: Geometry and Mensuration

- Q10.** Find the area of the square shown below, whose side measures 9 cm.

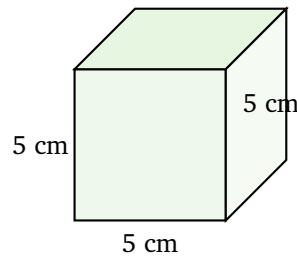


- (A) 81 sq. cm



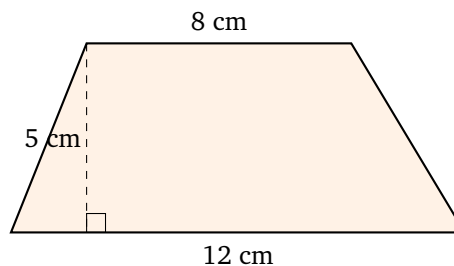
- (B) 36 sq. cm
- (C) 18 sq. cm
- (D) 72 sq. cm

Q11. Find the volume of the cube shown below, whose edge measures 5 cm.



- (A) 25 cu. cm
- (B) 75 cu. cm
- (C) 125 cu. cm
- (D) 150 cu. cm

Q12. Find the area of the trapezium shown below, whose parallel sides are 8 cm and 12 cm and whose height is 5 cm.

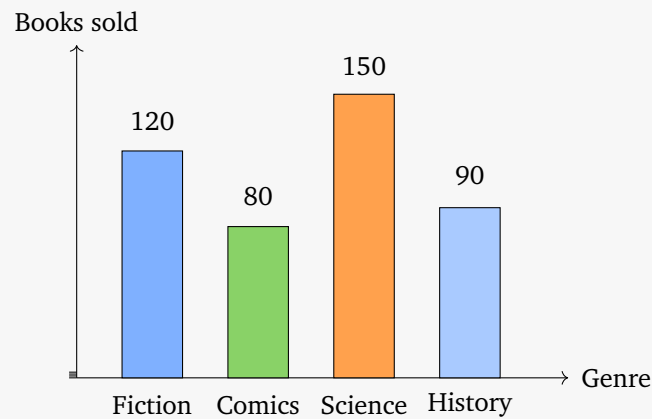


- (A) 50 sq. cm
- (B) 100 sq. cm
- (C) 40 sq. cm
- (D) 60 sq. cm

Part D: Data Interpretation



Directions (Q13–Q16): The bar chart below shows the number of books sold by a shop across four genres in a month. Study it and answer the questions that follow.



Q13. Which genre recorded the highest number of books sold?

- (A) Science
- (B) Fiction
- (C) History
- (D) Comics

Q14. What is the total number of books sold across all four genres?

- (A) 420
- (B) 430
- (C) 450
- (D) 440

Q15. By what percentage did Fiction sales exceed Comics sales?

- (A) 40%
- (B) 25%
- (C) 60%
- (D) 50%

Q16. What is the average number of books sold per genre?



- (A) 100
- (B) 110
- (C) 120
- (D) 105

Part E: Data Sufficiency

Directions (Q17–Q20): Each question is followed by two statements, I and II. Decide whether the statements are sufficient to answer the question, and mark:

- (A) if Statement I alone is sufficient but Statement II alone is not;
- (B) if Statement II alone is sufficient but Statement I alone is not;
- (C) if both statements together are sufficient but neither alone is;
- (D) if either statement alone is sufficient.

Q17. What is the value of the number x ?

I. $3x = 21$.

II. $x - 4 = 3$.

- (A) Statement I alone is sufficient
- (B) Statement II alone is sufficient
- (C) Both statements together are needed
- (D) Either statement alone is sufficient

Q18. What is the area of a certain square?

I. The side of the square is 6 cm.

II. The perimeter of the square is 24 cm.

- (A) Statement I alone is sufficient
- (B) Statement II alone is sufficient
- (C) Both statements together are needed
- (D) Either statement alone is sufficient



Q19. What is the present age of Ravi?

- I. Ravi is 3 years older than his brother.
- II. The sum of the ages of Ravi and his brother is 25 years.

- (A) Statement I alone is sufficient
- (B) Statement II alone is sufficient
- (C) Both statements together are needed
- (D) Either statement alone is sufficient

Q20. What is the value of the number x ?

- I. x lies between 10 and 20.
- II. x is a perfect square lying between 10 and 20.

- (A) Statement I alone is sufficient
- (B) Statement II alone is sufficient
- (C) Both statements together are needed
- (D) Either statement alone is sufficient



Detailed Solutions**Q1.****Solution**

Concept — Successive discounts: Apply each discount one after the other on the price left after the previous discount.

Step 1: The marked price is Rs. 800.

Step 2: First discount of 10% = $0.10 \times 800 = \text{Rs. } 80$, so the price becomes $800 - 80 = \text{Rs. } 720$.

Step 3: Second discount of 20% is applied on Rs. 720: $0.20 \times 720 = \text{Rs. } 144$.

Step 4: Final selling price = $720 - 144 = \text{Rs. } 576$.

Why other options are wrong:

- Option A: Rs. 560 wrongly adds the two discounts to a flat 30% off 800 minus an extra step.
- Option B: Rs. 600 comes from applying only a single 25% discount.
- Option D: Rs. 640 applies only the 20% discount and ignores the 10%.

Final Answer: The selling price is Rs. 576 $\Rightarrow$

Answer: (C) [Go Back to Q1](#)

Q2.**Solution**

Concept — Percentage of a total: Find the girls first, then subtract from the total to get the boys.

Step 1: Girls = 40% of 60 = $0.40 \times 60 = 24$.

Step 2: Boys = $60 - 24 = 36$.

Why other options are wrong:

- Option A: 24 is the number of girls, not boys.
- Option B: 30 assumes an even split of the class.
- Option D: 40 uses 40% as a count instead of a percentage.

Final Answer: There are 36 boys $\Rightarrow$

Answer: (C) [Go Back to Q2](#)



Q3.

Solution

Concept — Loss and cost price: At a loss, selling price = cost price $\times$ (1 – loss rate).

Step 1: A loss of 10% means the selling price is 90% of the cost price.

Step 2: So $0.90 \times \text{CP} = 720$.

Step 3: $\text{CP} = \frac{720}{0.90} = \text{Rs. } 800$.

Why other options are wrong:

- Option A: Rs. 780 does not give a 10% loss on Rs. 720.
- Option C: Rs. 792 wrongly takes 10% of the selling price.
- Option D: Rs. 750 does not satisfy the loss condition.

Final Answer: The cost price is Rs. 800 $\Rightarrow$ **B**

Answer: (B) [Go Back to Q3](#)

Q4.

Solution

Concept — Shifting every term: Adding the same amount to each number raises the average by that same amount.

Step 1: The original average of the 6 numbers is 15.

Step 2: Each number is increased by 4, so the total rises by $6 \times 4 = 24$.

Step 3: New average = $15 + \frac{24}{6} = 15 + 4 = 19$.

Why other options are wrong:

- Option A: 15 assumes the average does not change.
- Option C: 21 adds too much to the average.
- Option D: 60 multiplies the average by 4 by mistake.

Final Answer: The new average is 19 $\Rightarrow$ **B**

Answer: (B) [Go Back to Q4](#)



Q5.

Solution

Concept — Average speed: $\text{Average speed} = \frac{\text{total distance}}{\text{total time}}$.

Step 1: Distance = 180 km and time = 3 hours.

Step 2: Average speed = $\frac{180}{3} = 60$ km/h.

Why other options are wrong:

- Option B: 55 km/h does not match the given distance and time.
- Option C: 45 km/h understates the speed.
- Option D: 90 km/h divides by 2 hours instead of 3.

Final Answer: The average speed is 60 km/h $\Rightarrow$ **A**

Answer: (A) [Go Back to Q5](#)

Q6.

Solution

Concept — Finding the whole from a percentage: If a known percentage equals a value, divide to find the whole.

Step 1: Let the number be n . Then 15% of $n = 45$.

Step 2: $0.15n = 45$.

Step 3: $n = \frac{45}{0.15} = 300$.

Why other options are wrong:

- Option A: 250 gives 15% as 37.5, not 45.
- Option B: 275 gives 15% as 41.25.
- Option D: 320 gives 15% as 48.

Final Answer: The number is 300 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q6](#)



Q7.

Solution

Concept — Algebraic identity: $a^2 + \frac{1}{a^2} = \left(a - \frac{1}{a}\right)^2 + 2$.

Step 1: We are given $a - \frac{1}{a} = 3$.

Step 2: Square it: $\left(a - \frac{1}{a}\right)^2 = 9$.

Step 3: Add 2: $a^2 + \frac{1}{a^2} = 9 + 2 = 11$.

Why other options are wrong:

- Option B: 9 forgets to add 2 after squaring.
- Option C: 7 subtracts 2 instead of adding.
- Option D: 13 adds 4 rather than 2.

Final Answer: The value is 11 $\Rightarrow$ **A**

Answer: (A) [Go Back to Q7](#)

Q8.

Solution

Concept — Consecutive integers: Two consecutive integers can be written as n and $n + 1$.

Step 1: Let the integers be n and $n + 1$. Their sum is $n + (n + 1) = 2n + 1$.

Step 2: Set $2n + 1 = 45$, so $2n = 44$ and $n = 22$.

Step 3: The larger integer is $n + 1 = 23$.

Why other options are wrong:

- Option A: 22 is the smaller integer.
- Option C: 24 with 21 does not sum to 45.
- Option D: 21 is neither of the two integers.

Final Answer: The larger integer is 23 $\Rightarrow$ **B**

Answer: (B) [Go Back to Q8](#)



Q9.

Solution

Concept — Linear equation: Bring the variable terms to one side and the constants to the other.

Step 1: Start with $5x + 3 = 3x + 11$.

Step 2: Subtract $3x$ from both sides: $2x + 3 = 11$.

Step 3: Subtract 3 from both sides: $2x = 8$.

Step 4: Divide by 2: $x = 4$.

Why other options are wrong:

- Option A: 2 gives $13 \neq 17$.
- Option B: 6 gives $33 \neq 29$.
- Option C: 8 gives $43 \neq 35$.

Final Answer: $x = 4 \Rightarrow$ D

Answer: (D) [Go Back to Q9](#)

Q10.

Solution

Concept — Area of a square: $\text{Area} = \text{side}^2$.

Step 1: The side of the square is 9 cm.

Step 2: $\text{Area} = 9^2 = 9 \times 9 = 81 \text{ sq. cm.}$

Why other options are wrong:

- Option B: 36 sq. cm squares a side of 6, not 9.
- Option C: 18 sq. cm doubles the side instead of squaring it.
- Option D: 72 sq. cm does not follow from a side of 9 cm.

Final Answer: The area is 81 sq. cm $\Rightarrow$ A

Answer: (A) [Go Back to Q10](#)



Q11.

Solution**Concept — Volume of a cube:** $\text{Volume} = \text{edge}^3$.**Step 1:** The edge of the cube is 5 cm.**Step 2:** $\text{Volume} = 5^3 = 5 \times 5 \times 5 = 125 \text{ cu. cm.}$ **Why other options are wrong:**

- Option A: 25 cu. cm squares the edge instead of cubing it.
- Option B: 75 cu. cm multiplies the edge by 15 by mistake.
- Option D: 150 cu. cm does not follow from an edge of 5 cm.

Final Answer: The volume is 125 cu. cm $\Rightarrow$ **C****Answer: (C)** [Go Back to Q11](#)

Q12.

Solution**Concept — Area of a trapezium:** $\text{Area} = \frac{1}{2} \times (\text{sum of parallel sides}) \times \text{height}$.**Step 1:** The parallel sides are 8 cm and 12 cm, and the height is 5 cm.**Step 2:** Sum of the parallel sides $= 8 + 12 = 20 \text{ cm.}$ **Step 3:** $\text{Area} = \frac{1}{2} \times 20 \times 5 = 10 \times 5 = 50 \text{ sq. cm.}$ **Why other options are wrong:**

- Option B: 100 sq. cm forgets the factor of one-half.
- Option C: 40 sq. cm uses only one parallel side.
- Option D: 60 sq. cm does not match the given values.

Final Answer: The area is 50 sq. cm $\Rightarrow$ **A****Answer: (A)** [Go Back to Q12](#)

Q13.

Solution

Concept — Reading a bar chart: The tallest bar shows the largest value.

Step 1: The values are Fiction = 120, Comics = 80, Science = 150, History = 90.

Step 2: The largest value, 150, belongs to the Science genre.

Why other options are wrong:

- Option B: Fiction sold 120, not the highest.
- Option C: History sold 90.
- Option D: Comics sold the least, 80.

Final Answer: Science sold the most books $\Rightarrow$ **A**

Answer: (A) [Go Back to Q13](#)

Q14.

Solution

Concept — Total from a chart: Add the values of all the bars.

Step 1: Total = $120 + 80 + 150 + 90$.

Step 2: $120 + 80 = 200$; $200 + 150 = 350$; $350 + 90 = 440$.

Why other options are wrong:

- Option A: 420 misreads one of the bars.
- Option B: 430 undercounts by 10.
- Option C: 450 overcounts by 10.

Final Answer: The total is 440 books $\Rightarrow$ **D**

Answer: (D) [Go Back to Q14](#)

Q15.

Solution

Concept — Percentage excess: Excess percentage = $\frac{\text{difference}}{\text{smaller value}} \times 100$.

Step 1: Fiction sold 120 and Comics sold 80, so the difference is $120 - 80 = 40$.



Step 2: Excess percentage = $\frac{40}{80} \times 100 = 50\%$.

Why other options are wrong:

- Option A: 40% wrongly uses 100 as the base.
- Option B: 25% divides the difference by 160.
- Option C: 60% does not match the values.

Final Answer: Fiction exceeded Comics by 50% $\Rightarrow$ **D**

Answer: (D) [Go Back to Q15](#)

Q16.

Solution

Concept — Average: $\text{Average} = \frac{\text{total}}{\text{number of genres}}$.

Step 1: Total across the four genres = 440 (from Q14).

Step 2: $\text{Average} = \frac{440}{4} = 110$.

Why other options are wrong:

- Option A: 100 is below the true average.
- Option C: 120 is above the true average.
- Option D: 105 does not divide the total correctly.

Final Answer: The average is 110 books $\Rightarrow$ **B**

Answer: (B) [Go Back to Q16](#)

Q17.

Solution

Concept — Data sufficiency: If each statement alone fixes the value, either one is sufficient.

Statement I: $3x = 21$ gives $x = 7$ on its own, so I alone is sufficient.

Statement II: $x - 4 = 3$ gives $x = 7$ on its own, so II alone is sufficient.

Conclusion: Each statement alone gives the same unique value, so either alone is sufficient.

Final Answer: Either statement alone is sufficient $\Rightarrow$ **D**



Answer: (D) [Go Back to Q17](#)

Q18.

Solution

Concept — Data sufficiency: The area of a square is fixed once its side is known, and the side can be found from either the side length or the perimeter.

Statement I: The side is 6 cm, so the area $= 6^2 = 36$ sq. cm. I alone is sufficient.

Statement II: The perimeter is 24 cm, so the side $= \frac{24}{4} = 6$ cm and the area $= 6^2 = 36$ sq. cm. II alone is sufficient.

Conclusion: Each statement alone gives the same unique area, so either alone is sufficient.

Final Answer: Either statement alone is sufficient $\Rightarrow$ **D**

Answer: (D) [Go Back to Q18](#)

Q19.

Solution

Concept — Data sufficiency: A single difference or a single sum alone cannot fix two ages; together they can.

Statement I: “Ravi is 3 years older than his brother” gives $R = B + 3$, with many possible values, so I alone is not sufficient.

Statement II: “The sum of their ages is 25” gives $R + B = 25$, again with many possibilities, so II alone is not sufficient.

Both together: Substitute $R = B + 3$ into $R + B = 25$ to get $2B + 3 = 25$, so $B = 11$ and $R = 14$. A unique answer results only when both are used.

Final Answer: Both statements together are needed $\Rightarrow$ **C**

Answer: (C) [Go Back to Q19](#)



Q20.

Solution

Concept — Data sufficiency: Test each statement on its own to see if it pins down a single value.

Statement I: “ x lies between 10 and 20” allows many values such as 11, 12, 13 and so on. This does not give a unique value, so I alone is not sufficient.

Statement II: “ x is a perfect square between 10 and 20” fixes $x = 16$, since 16 is the only perfect square in that range. This gives a unique value, so II alone is sufficient.

Conclusion: Statement II alone is sufficient but Statement I alone is not.

Final Answer: Statement II alone is sufficient $\Rightarrow$ B

Answer: (B) [Go Back to Q20](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	C	3	B	4	B	5	A
6	C	7	A	8	B	9	D	10	A
11	C	12	A	13	A	14	D	15	D
16	B	17	D	18	D	19	C	20	B

