SNAP Quantitative, Data Interpretation and Data Sufficiency

Sample Paper – 7

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 jacket priced at Rs. 500 carries two successive discounts of 20% and 10%. What is its final selling price?

(A) Rs. 350

(B) Rs. 380

(C) Rs. 360

(D) Rs. 340

Q2. Two partners invest Rs. 8000 and Rs. 12000 in a business. If the total annual profit is Rs. 5000, what is the share of the second partner?

(A) Rs. 2000

(B) Rs. 2500

(C) Rs. 3000

(D) Rs. 3500

Q3. An item bought for Rs. 600 is sold for Rs. 480. What is the loss percentage?

(A) 15%

(B) 25%

(C) 18%

(D) 20%

Q4. The average age of a group of 6 people is 25 years. If a person aged 32 years joins the group, what is the new average age?

(A) 26 years

(B) 27 years

(C) 25 years

(D) 28 years

Q5. A can complete a piece of work in 12 days and B can complete the same work in 6 days. Working together, in how many days will they finish it?

(A) 4 days

(B) 5 days

(C) 6 days

(D) 3 days

Q6. A man walks at a steady speed of 5 km/h and keeps walking for 48 minutes. What distance does he cover?

(A) 3 km

(B) 5 km

(C) 4.5 km

(D) 4 km

Part B: Algebra and Number System

Q7. If $a - b = 5$ and $ab = 6$, what is the value of $a^2 + b^2$?

(A) 25

(B) 13

(C) 37

(D) 49

Q8. The HCF of two numbers is 6 and their LCM is 60. If one of the numbers is 12, what is the other number?

(A) 18

(B) 20

(C) 24

(D) 30

Q9. Solve for x: $5x + 3 = 3x + 11$.

(A) 3

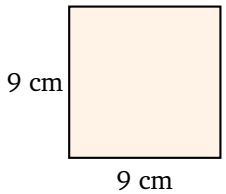
(B) 4

(C) 5

(D) 6

Part C: Geometry and Mensuration

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



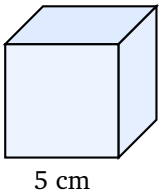
(A) 36 sq. cm

(B) 72 sq. cm

(C) 81 sq. cm

(D) 18 sq. cm

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



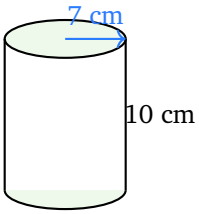
(A) 100 cubic cm

(B) 125 cubic cm

(C) 150 cubic cm

(D) 75 cubic cm

Q12. Find the volume of the cylinder shown below, with radius 7 cm and height 10 cm. (Take $\pi = \frac{22}{7}$.)



(A) 440 cubic cm

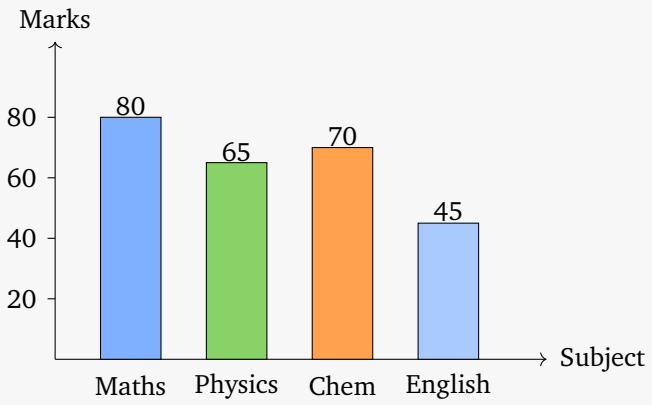
(B) 770 cubic cm

(C) 2200 cubic cm

(D) 1540 cubic cm

Part D: Data Interpretation

Directions (Q13–Q16): The bar chart below shows the marks scored by a student in four subjects in a recent examination. Study it and answer the questions that follow.



Q13. In which subject did the student score the lowest marks?

(A) Maths

(B) Physics

(C) Chemistry

(D) English

Q14. What is the total marks scored by the student across all four subjects?

(A) 250

(B) 260

(C) 270

(D) 255

Q15. What is the average marks scored per subject?

(A) 60

(B) 65

(C) 70

(D) 62.5

Q16. What is the difference between the highest and the lowest marks scored?

(A) 25

(B) 30

(C) 35

(D) 40

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 integer n?
I. n is the square of 4.
II. n is an even number 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

Q18. What is the cost of one pen?
I. Five identical pens cost Rs. 60 in total.
II. One pen costs more than Rs. 10.

(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 value of x?
I. x is a multiple of 3 that is less than 12.
II. x is the cube of 2.

(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 perimeter of the square?

I. The side of the square is 7 cm.

II. The area of the square is greater than 40 sq. 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

Detailed Solutions

Q1.

Solution

Concept — Successive discounts: Apply each discount one after another, with the second discount taken on the already reduced price.

Step 1: The marked price is Rs. 500.

Step 2: First discount of 20% $= 0.20 \times 500 =$ Rs. 100, so the price becomes $500 - 100 =$ Rs. 400.

Step 3: Second discount of 10% is taken on Rs. 400: $0.10 \times 400 =$ Rs. 40.

Step 4: Final price $= 400 - 40 =$ Rs. 360.

Why other options are wrong:

- Option A: Rs. 350 wrongly adds the two discounts to 30% and takes it on Rs. 500 with a further slip.
- Option B: Rs. 380 applies only a single 24% discount incorrectly.
- Option D: Rs. 340 takes the 10% discount on the original Rs. 500 instead of on Rs. 400.

Final Answer: The final price is Rs. 360 $\Rightarrow$ C

Answer: (C) Go Back to Q1

Q2.

Solution

Concept — Profit sharing: Profit is divided in the ratio of the amounts invested.

Step 1: The investments are Rs. 8000 and Rs. 12000, giving the ratio $8000 : 12000 = 2 : 3$.

Step 2: Total number of parts $= 2 + 3 = 5$.

Step 3: One part $= \dfrac{5000}{5} =$ Rs. 1000.

Step 4: The second partner has 3 parts, so their share $= 3 \times 1000 =$ Rs. 3000.

Why other options are wrong:

- Option A: Rs. 2000 is the first partner's share (2 parts).

- Option B: Rs. 2500 wrongly splits the profit into two equal halves.
- Option D: Rs. 3500 does not match any part of the ratio.

Final Answer: The second partner's share is Rs. 3000 $\Rightarrow$ C

Answer: (C) Go Back to Q2

Q3.

Solution

Concept — Loss percentage: Loss percentage is the loss expressed as a percentage of the cost price.

Step 1: Loss $= 600 - 480 =$ Rs. 120.

Step 2: Loss percentage $= \dfrac{120}{600} \times 100 = 20\%$.

Why other options are wrong:

- Option A: 15% would need a loss of Rs. 90.
- Option B: 25% would need a loss of Rs. 150.
- Option C: 18% would need a loss of Rs. 108.

Final Answer: The loss is 20% $\Rightarrow$ D

Answer: (D) Go Back to Q3

Q4.

Solution

Concept — Average when a member joins: Recompute the total, then divide by the new count.

Step 1: Sum of the 6 ages $= 25 \times 6 = 150$ years.

Step 2: After the new person joins, sum $= 150 + 32 = 182$ years.

Step 3: There are now 7 people, so the new average $= \dfrac{182}{7} = 26$ years.

Why other options are wrong:

- Option B: 27 years overstates the new average.
- Option C: 25 years wrongly assumes the average is unchanged.
- Option D: 28 years divides by a wrong count.

Final Answer: The new average age is 26 years $\Rightarrow$ A

Answer: (A) Go Back to Q4

Q5.

Solution

Concept — Work done together: Add the one-day work rates of the two people, then invert to get the time.

Step 1: In one day A does $\frac{1}{12}$ of the work and B does $\frac{1}{6}$ of the work.

Step 2: Together in one day $= \frac{1}{12} + \frac{1}{6} = \frac{1}{12} + \frac{2}{12} = \frac{3}{12} = \frac{1}{4}$.

Step 3: They complete $\frac{1}{4}$ of the work each day, so the whole work takes 4 days.

Why other options are wrong:

- Option B: 5 days does not follow from the combined rate.
- Option C: 6 days is B's time alone.
- Option D: 3 days overstates their combined speed.

Final Answer: They finish in 4 days $\Rightarrow$ A

Answer: (A) Go Back to Q5

Q6.

Solution

Concept — Distance: Distance $=$ speed $\times$ time, with time expressed in hours.

Step 1: Convert 48 minutes to hours: $\frac{48}{60} = 0.8$ hour.

Step 2: Distance $= 5 \times 0.8 = 4$ km.

Why other options are wrong:

- Option A: 3 km uses a wrong time conversion.
- Option B: 5 km assumes a full hour of walking.
- Option C: 4.5 km does not match the given values.

Final Answer: The distance is 4 km $\Rightarrow$ D

Answer: (D) Go Back to Q6

Q7.

Solution

Concept — Algebraic identity: $a^2 + b^2 = (a - b)^2 + 2ab$.

Step 1: We are given $a - b = 5$ and $ab = 6$.

Step 2: Square the difference: $(a - b)^2 = 5^2 = 25$.

Step 3: Add $2ab$: $a^2 + b^2 = 25 + 2 \times 6 = 25 + 12 = 37$.

Why other options are wrong:

- Option A: 25 forgets to add $2ab$.
- Option B: 13 subtracts $2ab$ instead of adding it.
- Option D: 49 wrongly uses $(a + b)^2$ with a slip.

Final Answer: The value is 37 $\Rightarrow$ C

Answer: (C) Go Back to Q7

Q8.

Solution

Concept — HCF and LCM: For two numbers, product of the numbers = HCF $\times$ LCM.

Step 1: Product of the two numbers $= 6 \times 60 = 360$.

Step 2: One number is 12, so the other $= \dfrac{360}{12} = 30$.

Why other options are wrong:

- Option A: 18 gives a product of 216, not 360.
- Option B: 20 gives a product of 240.
- Option C: 24 gives a product of 288.

Final Answer: The other number is 30 $\Rightarrow$ D

Answer: (D) 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: 3 gives $18 \neq 20$.
- Option C: 5 gives $28 \neq 26$.
- Option D: 6 gives $33 \neq 29$.

Final Answer: $x = 4 \Rightarrow$ B

Answer: (B) Go Back to Q9

Q10.

Solution

Concept — Area of a square: Area $=$ side $\times$ side $=$ side^2.

Step 1: Here the side $= 9$ cm.

Step 2: Area $= 9 \times 9 = 81$ sq. cm.

Why other options are wrong:

- Option A: 36 sq. cm uses a side of 6 cm.
- Option B: 72 sq. cm does not follow from the given side.
- Option D: 18 sq. cm doubles the side instead of squaring it.

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

Answer: (C) Go Back to Q10

Q11.

Solution

Concept — Volume of a cube: Volume $= \text{edge}^3$.

Step 1: Here the edge $= 5$ cm.

Step 2: Volume $= 5 \times 5 \times 5 = 125$ cubic cm.

Why other options are wrong:

- Option A: 100 cubic cm does not match 5^3.
- Option C: 150 cubic cm overstates the volume.
- Option D: 75 cubic cm uses 3×5^2, which is not the cube.

Final Answer: The volume is 125 cubic cm $\Rightarrow$ B

Answer: (B) Go Back to Q11

Q12.

Solution

Concept — Volume of a cylinder: Volume $= \pi r^2 h$.

Step 1: Here $r = 7$ cm, $h = 10$ cm and $\pi = \dfrac{22}{7}$.

Step 2: $r^2 = 7 \times 7 = 49$.

Step 3: Volume $= \dfrac{22}{7} \times 49 \times 10$.

Step 4: $\dfrac{22}{7} \times 49 = 22 \times 7 = 154$, so Volume $= 154 \times 10 = 1540$ cubic cm.

Why other options are wrong:

- Option A: 440 cubic cm uses the circumference formula by mistake.
- Option B: 770 cubic cm is exactly half of the correct value.
- Option C: 2200 cubic cm uses a wrong value of r^2.

Final Answer: The volume is 1540 cubic cm $\Rightarrow$ D

Answer: (D) Go Back to Q12

Q13.

Solution

Concept — Reading a bar chart: The shortest bar shows the smallest value.

Step 1: The marks are Maths $= 80$, Physics $= 65$, Chemistry $= 70$, English $= 45$.

Step 2: The smallest value, 45, belongs to English.

Why other options are wrong:

- Option A: Maths scored the highest, 80.
- Option B: Physics scored 65.
- Option C: Chemistry scored 70.

Final Answer: The lowest marks are in English $\Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q13

Q14.

Solution

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

Step 1: Total $= 80 + 65 + 70 + 45$.

Step 2: $80 + 65 = 145$; $145 + 70 = 215$; $215 + 45 = 260$.

Why other options are wrong:

- Option A: 250 undercounts by 10.
- Option C: 270 overcounts by 10.
- Option D: 255 misreads one of the bars.

Final Answer: The total is 260 $\Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q14

Q15.

Solution

Concept — Average: Average $= \dfrac{\text{total}}{\text{number of subjects}}$.

Step 1: Total marks $= 260$ (from Q14).

Step 2: There are 4 subjects, so average $= \frac{260}{4} = 65$.

Why other options are wrong:

- Option A: 60 is below the true average.
- Option C: 70 is above the true average.
- Option D: 62.5 uses a wrong total.

Final Answer: The average is 65 $\Rightarrow$ B

Answer: (B) Go Back to Q15

Q16.

Solution

Concept — Range of values: Difference = highest value − lowest value.

Step 1: The highest marks are 80 (Maths) and the lowest are 45 (English).

Step 2: Difference $= 80 - 45 = 35$.

Why other options are wrong:

- Option A: 25 uses the wrong pair of bars.
- Option B: 30 misreads one of the values.
- Option D: 40 overstates the difference.

Final Answer: The difference is 35 $\Rightarrow$ C

Answer: (C) Go Back to Q16

Q17.

Solution

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

Statement I: "n is the square of 4" gives $n = 4^2 = 16$, a single value. So I alone is sufficient.

Statement II: "n is an even number between 10 and 20" allows 12, 14, 16 or 18. This does not give a unique value, so II alone is not sufficient.

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

Final Answer: Statement I alone is sufficient $\Rightarrow$ A

Answer: (A) Go Back to Q17

Q18.

Solution

Concept — Data sufficiency: A statement is sufficient only if it fixes a single price.

Statement I: "Five pens cost Rs. 60" gives the cost of one pen as $\frac{60}{5}$ = Rs. 12, a single value. So I alone is sufficient.

Statement II: "One pen costs more than Rs. 10" allows Rs. 11, Rs. 12, Rs. 15 and many others. This does not give a unique value, so II alone is not sufficient.

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

Final Answer: Statement I alone is sufficient $\Rightarrow$ A

Answer: (A) Go Back to Q18

Q19.

Solution

Concept — Data sufficiency: Check whether each statement alone forces one value.

Statement I: "x is a multiple of 3 less than 12" allows 3, 6 or 9. This does not give a unique value, so I alone is not sufficient.

Statement II: "x is the cube of 2" gives $x = 2^3 = 8$, a single 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 Q19

Q20.

Solution

Concept — Data sufficiency: The perimeter of a square is fixed once its side is known.

Statement I: "The side is 7 cm" gives the perimeter $= 4 \times 7 = 28$ cm, a single value. So I alone is sufficient.

Statement II: "The area is greater than 40 sq. cm" allows many side lengths (any side above about 6.32 cm), so the perimeter is not fixed. II alone is not sufficient.

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

Final Answer: Statement I alone is sufficient $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q20

Answer Key

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