

SNAP Quantitative, Data Interpretation and Data Sufficiency

Sample Paper – 10

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.** An article is sold at a loss of 10%. Had it been sold for Rs. 45 more, there would have been a gain of 5%. What is the cost price of the article?
- (A) Rs. 250
(B) Rs. 300
(C) Rs. 350
(D) Rs. 450
- Q2.** If 60% of a number is 90, what is 80% of the same number?
- (A) 150
(B) 120



(C) 108

(D) 135

Q3. Two numbers are in the ratio 5 : 8 and their sum is 91. What is the larger of the two numbers?

(A) 35

(B) 49

(C) 56

(D) 63

Q4. 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 the work?

(A) 4

(B) 3

(C) 6

(D) 8

Q5. Find the compound interest on Rs. 8000 at 10% per annum for 2 years, compounded annually.

(A) Rs. 1600

(B) Rs. 800

(C) Rs. 1700

(D) Rs. 1680

Q6. A train is moving at a uniform speed of 54 km/h. How many metres does it cover in 20 seconds?

(A) 270

(B) 300

(C) 320



(D) 250

Part B: Algebra and Number System

Q7. If $a^2 + b^2 = 29$ and $ab = 10$, what is the value of $a + b$ (taking the positive value)?

(A) 7

(B) 8

(C) 9

(D) 6

Q8. What is the smallest positive number that is exactly divisible by both 12 and 18?

(A) 72

(B) 54

(C) 48

(D) 36

Q9. Solve for x : $2(x + 3) = x + 11$.

(A) 5

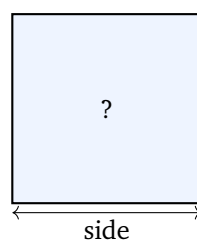
(B) 7

(C) 8

(D) 4

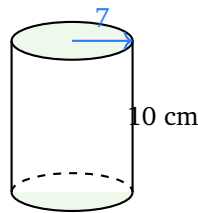
Part C: Geometry and Mensuration

Q10. The perimeter of a square is 36 cm. Find its area.



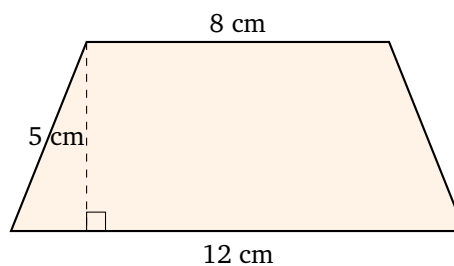
- (A) 144 sq. cm
- (B) 49 sq. cm
- (C) 81 sq. cm
- (D) 64 sq. cm

Q11. Find the volume of a right circular cylinder of radius 7 cm and height 10 cm. (Take $\pi = \frac{22}{7}$.)



- (A) 440 cubic cm
- (B) 2200 cubic cm
- (C) 1540 cubic cm
- (D) 1100 cubic 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.

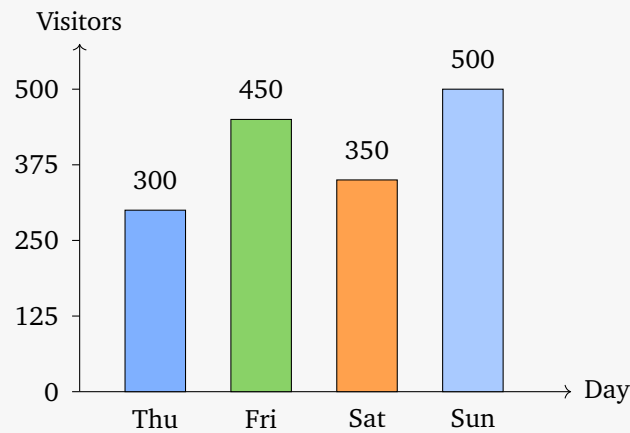


- (A) 40 sq. cm
- (B) 50 sq. cm
- (C) 60 sq. cm
- (D) 100 sq. cm

Part D: Data Interpretation



Directions (Q13–Q16): The bar chart below shows the number of visitors to a museum on four consecutive days. Study it and answer the questions that follow.



Q13. On which day did the museum receive the highest number of visitors?

- (A) Saturday
- (B) Sunday
- (C) Friday
- (D) Thursday

Q14. What is the total number of visitors over the four days?

- (A) 1500
- (B) 1650
- (C) 1550
- (D) 1600

Q15. What is the percentage increase in the number of visitors from Thursday to Friday?

- (A) 25%
- (B) 33.3%
- (C) 40%
- (D) 50%



Q16. What is the average number of visitors per day over the four days?

- (A) 400
- (B) 375
- (C) 420
- (D) 450

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. x is the smallest two-digit prime number.
- II. x is an odd number greater than 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

Q18. What is the present age of Ravi?

- I. Ravi is 5 years older than Sita.
- II. The sum of the present ages of Ravi and Sita is 35 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



Q19. What is the cost of one pen?

- I. Three pens and two pencils together cost Rs. 34.
- II. One pen and one pencil together cost Rs. 13.

- (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 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



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

Concept — Loss, gain and cost price: The difference between a selling price at a gain and a selling price at a loss equals the sum of the two percentages applied to the same cost price.

Step 1: Let the cost price be Rs. C . Selling at a 10% loss gives a selling price of $0.90C$.

Step 2: Selling for Rs. 45 more gives a 5% gain, so that selling price is $1.05C$.

Step 3: The extra amount is $1.05C - 0.90C = 0.15C$, and this equals Rs. 45.

Step 4: So $0.15C = 45$, which gives $C = \frac{45}{0.15} = \text{Rs. } 300$.

Why other options are wrong:

- Option A: Rs. 250 gives a difference of only $0.15 \times 250 = \text{Rs. } 37.50$.
- Option C: Rs. 350 gives a difference of Rs. 52.50, not Rs. 45.
- Option D: Rs. 450 gives a difference of Rs. 67.50.

Final Answer: The cost price is Rs. 300 $\Rightarrow$ **B**

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

Q2.**Solution**

Concept — Percentage of a number: First find the whole number, then take the required percentage of it.

Step 1: Let the number be N . We are told $0.60N = 90$.

Step 2: So $N = \frac{90}{0.60} = 150$.

Step 3: Now 80% of $150 = 0.80 \times 150 = 120$.

Why other options are wrong:

- Option A: 150 is the number itself, not 80% of it.
- Option C: 108 wrongly takes 72% of the number.
- Option D: 135 takes 90% instead of 80%.

Final Answer: 80% of the number is 120 $\Rightarrow$ **B**



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

Q3.

Solution

Concept — Ratio and sum: Add the ratio parts, find the value of one part, then scale to the larger term.

Step 1: The ratio is 5 : 8, so the total number of parts is $5 + 8 = 13$.

Step 2: One part = $\frac{91}{13} = 7$.

Step 3: The larger number has 8 parts, so it is $8 \times 7 = 56$.

Why other options are wrong:

- Option A: 35 is the smaller number (5 parts).
- Option B: 49 does not correspond to either term.
- Option D: 63 exceeds the sum split by this ratio.

Final Answer: The larger number is 56 $\Rightarrow$ **C**

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

Q4.

Solution

Concept — Combined work: Add the daily work rates of the two workers to get their joint rate.

Step 1: A's rate is $\frac{1}{12}$ of the work per day and B's rate is $\frac{1}{6}$ per day.

Step 2: Joint rate = $\frac{1}{12} + \frac{1}{6} = \frac{1}{12} + \frac{2}{12} = \frac{3}{12} = \frac{1}{4}$ per day.

Step 3: Time to finish = $\frac{1}{1/4} = 4$ days.

Why other options are wrong:

- Option B: 3 days assumes a joint rate of $\frac{1}{3}$, which is too fast.
- Option C: 6 days is B's solo time, ignoring A's help.
- Option D: 8 days is slower than B working alone, which is impossible together.

Final Answer: Together they finish in 4 days $\Rightarrow$ **A**



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

Q5.

Solution

Concept — Compound interest: $\text{Amount} = P \left(1 + \frac{R}{100}\right)^T$, and $\text{CI} = \text{Amount} - P$.

Step 1: Here $P = 8000$, $R = 10$ and $T = 2$.

Step 2: $\text{Amount} = 8000 \times \left(1 + \frac{10}{100}\right)^2 = 8000 \times (1.1)^2$.

Step 3: $(1.1)^2 = 1.21$, so $\text{Amount} = 8000 \times 1.21 = 9680$.

Step 4: $\text{CI} = 9680 - 8000 = \text{Rs. } 1680$.

Why other options are wrong:

- Option A: Rs. 1600 is the simple interest, which ignores interest on interest.
- Option B: Rs. 800 is only one year's interest.
- Option C: Rs. 1700 is not produced by the formula.

Final Answer: The compound interest is Rs. 1680 $\Rightarrow$ **D**

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

Q6.

Solution

Concept — Distance: $\text{Distance} = \text{speed} \times \text{time}$, after converting the speed to metres per second.

Step 1: Convert 54 km/h to m/s by multiplying by $\frac{5}{18}$: $54 \times \frac{5}{18} = 15 \text{ m/s}$.

Step 2: Distance in 20 seconds = $15 \times 20 = 300 \text{ metres}$.

Why other options are wrong:

- Option A: 270 m uses a wrong speed of 13.5 m/s.
- Option C: 320 m overstates the distance.
- Option D: 250 m uses a speed below 15 m/s.

Final Answer: The train covers 300 metres $\Rightarrow$ **B**



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

Q7.

Solution

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

Step 1: We are given $a^2 + b^2 = 29$ and $ab = 10$.

Step 2: $(a + b)^2 = 29 + 2 \times 10 = 29 + 20 = 49$.

Step 3: Taking the positive root, $a + b = \sqrt{49} = 7$.

Why other options are wrong:

- Option B: 8 gives a square of 64, not 49.
- Option C: 9 gives a square of 81.
- Option D: 6 gives a square of 36.

Final Answer: The value is 7 $\Rightarrow$ **A**

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

Q8.

Solution

Concept — Least common multiple: The smallest number divisible by two numbers is their LCM.

Step 1: Factorise: $12 = 2^2 \times 3$ and $18 = 2 \times 3^2$.

Step 2: Take the highest power of each prime: $2^2 \times 3^2 = 4 \times 9 = 36$.

Step 3: So the LCM of 12 and 18 is 36, which is the smallest such number.

Why other options are wrong:

- Option A: 72 is divisible by both but is not the smallest.
- Option B: 54 is not divisible by 12.
- Option C: 48 is not divisible by 18.

Final Answer: The smallest such number is 36 $\Rightarrow$ **D**

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



Q9.

Solution

Concept — Linear equation: Expand the bracket, then collect the variable on one side and constants on the other.

Step 1: Expand the left side: $2(x + 3) = 2x + 6$, so $2x + 6 = x + 11$.

Step 2: Subtract x from both sides: $x + 6 = 11$.

Step 3: Subtract 6 from both sides: $x = 5$.

Why other options are wrong:

- Option B: 7 gives $20 \neq 18$ when substituted.
- Option C: 8 gives $22 \neq 19$.
- Option D: 4 gives $14 \neq 15$.

Final Answer: $x = 5 \Rightarrow$ A

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

Q10.

Solution

Concept — Square: Perimeter = $4 \times \text{side}$, and area = side^2 .

Step 1: Side = $\frac{\text{perimeter}}{4} = \frac{36}{4} = 9$ cm.

Step 2: Area = $9^2 = 81$ sq. cm.

Why other options are wrong:

- Option A: 144 sq. cm uses a side of 12 cm.
- Option B: 49 sq. cm uses a side of 7 cm.
- Option D: 64 sq. cm uses a side of 8 cm.

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

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



Q11.

Solution**Concept — Volume of a cylinder:** $\text{Volume} = \pi r^2 h$.**Step 1:** Here $r = 7$ cm and $h = 10$ cm, with $\pi = \frac{22}{7}$.**Step 2:** $r^2 = 7 \times 7 = 49$.**Step 3:** $\text{Volume} = \frac{22}{7} \times 49 \times 10 = 22 \times 7 \times 10$.**Step 4:** $22 \times 7 = 154$, and $154 \times 10 = 1540$ cubic cm.**Why other options are wrong:**

- Option A: 440 cubic cm uses the curved surface area formula wrongly.
- Option B: 2200 cubic cm uses a height of about 14.3 cm.
- Option D: 1100 cubic cm undercounts the volume.

Final Answer: The volume is 1540 cubic 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, so their sum is $8 + 12 = 20$ cm.**Step 2:** The height is 5 cm.**Step 3:** $\text{Area} = \frac{1}{2} \times 20 \times 5 = 10 \times 5 = 50$ sq. cm.**Why other options are wrong:**

- Option A: 40 sq. cm multiplies only one parallel side by the height and halves.
- Option C: 60 sq. cm uses a wrong sum of the parallel sides.
- Option D: 100 sq. cm forgets the factor of one-half.

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

Q13.

Solution

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

Step 1: The values are Thu = 300, Fri = 450, Sat = 350, Sun = 500.

Step 2: The largest value, 500, belongs to Sunday.

Why other options are wrong:

- Option A: Saturday had 350 visitors.
- Option C: Friday had 450 visitors, still less than Sunday.
- Option D: Thursday had the fewest, 300 visitors.

Final Answer: Visitors were highest on Sunday $\Rightarrow$ **B**

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

Q14.

Solution

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

Step 1: Total = $300 + 450 + 350 + 500$.

Step 2: $300 + 450 = 750$; $750 + 350 = 1100$; $1100 + 500 = 1600$.

Why other options are wrong:

- Option A: 1500 misreads one of the bars.
- Option B: 1650 overcounts by 50.
- Option C: 1550 undercounts by 50.

Final Answer: The total is 1600 visitors $\Rightarrow$ **D**

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

Q15.

Solution

Concept — Percentage increase: Increase percentage = $\frac{\text{rise}}{\text{original}} \times 100$.

Step 1: Rise from Thursday to Friday = $450 - 300 = 150$.



Step 2: Percentage increase = $\frac{150}{300} \times 100 = 50\%$.

Why other options are wrong:

- Option A: 25% wrongly uses a base other than 300.
- Option B: 33.3% uses 450 as the base.
- Option C: 40% does not match the values.

Final Answer: The increase is 50% $\Rightarrow$ **D**

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

Q16.

Solution

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

Step 1: Total over four days = 1600 (from Q14).

Step 2: Average = $\frac{1600}{4} = 400$.

Why other options are wrong:

- Option B: 375 is below the true average.
- Option C: 420 is above the true average.
- Option D: 450 equals Friday's figure, not the mean.

Final Answer: The average is 400 visitors $\Rightarrow$ **A**

Answer: (A) [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: " x is the smallest two-digit prime number" fixes $x = 11$, since 11 is the smallest prime with two digits. This gives a unique value, so I alone is sufficient.

Statement II: " x is an odd number greater than 10" allows 11, 13, 15, 17, and many more. 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 single difference or a single sum alone cannot fix two ages; together they can.

Statement I: “Ravi is 5 years older than Sita” gives only $R = S + 5$, with many possible values, so I alone is not sufficient.

Statement II: “The sum of their ages is 35” gives $R + S = 35$, again with many possibilities, so II alone is not sufficient.

Both together: Substitute $R = S + 5$ into $R + S = 35$ to get $2S + 5 = 35$, so $S = 15$ and $R = 20$. A unique answer results only when both are used.

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

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

Q19.

Solution

Concept — Data sufficiency: One equation in two unknowns cannot fix a single price; two independent equations can.

Statement I: “3 pens and 2 pencils cost Rs. 34” gives $3p + 2q = 34$, one equation in two unknowns, so I alone is not sufficient.

Statement II: “1 pen and 1 pencil cost Rs. 13” gives $p + q = 13$, again one equation in two unknowns, so II alone is not sufficient.

Both together: From II, $q = 13 - p$. Substitute into I: $3p + 2(13 - p) = 34$, so $3p + 26 - 2p = 34$, giving $p = 8$. A unique price needs both statements.

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

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



Q20.

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 Q20](#)



Answer Key

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

