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Data Sufficiency Questions for SBI PO Pre, IBPS PO Pre, SBI Clerk Mains and IBPS Clerk Mains Exams.

Data Sufficiency Quiz 17

Directions: Each of the questions below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the statements and give answer.

1. Is the average age of the students of a school less than 17 years?

Statement I : The strength of the class VIII is less than 25% of the strength of the school.

Statement II : The average age of the students of class VIII of the school is 18 years and that of the remaining classes is 16 years.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

2. Among 20 retired persons, is the number of persons, who are having at least 20 years of service, less than 8?

Statement I : Exactly 17 persons joined the service before 2000 and exactly 14 persons retired after 2020.

Statement II : Exactly 14 persons joined the service after 2000 and exactly 6 persons retired before 2020.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

3. The lengths of trains A and B are in the ratio 2:3. Which of them takes less time to cross the same platform?

Statement I : The time taken by train A to cross train B when they are moving in opposite directions is half the time taken by it to cross train B, when moving in the same direction.
Statement II : The ratio of the length of train B to that of the platform is 4 : 3.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

4. Is the speed of the boat in still water at least twice that of the speed of the stream?

Statement I : The time taken by the boat to reach a point P, from Q is exactly twice the time taken by the boat, to reach Q from the point P.
Statement II : The time taken by the boat to cover 8 km downstream is 40 minutes and it takes four hours to cover 16 km upstream.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

5. Rani, Supriya and Amita work on a project. If each of them is of a different efficiency. Who is the fastest worker among them?

Statement I : Rani and Supriya take 5 days to complete the project while Supriya and Amita take 10 days to complete the same project.
Statement II: Rani and Amita take 30/7 days to complete the project.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

6. Sum of ages of Julia, Rani, Amelia and Sonia is 91. What is the present age of Amelia?

Statement I : Ratio of ages of Sonia and Julia 6 years ago was 9 : 7.

Statement II : Ratio of ages of Julia and Amelia after 10 years will be 6 : 7.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

7. What will be the height of three friends Rahul, Robert and Priyanka altogether, if Priyanka's height is 39 cm?

Statement I : The sum of the heights of Rahul and Priyanka is equal to 160 cm.

Statement II : The height of Robert is equal to 3 times the height of Priyanka.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question
D. If the data in both statements I and II together are necessary to answer the question
E. If the data given in both statements I and II together are not sufficient to answer the question.

8. The cost price of an article is Rs.100. What is the percentage profit earned by the merchant on selling the article?

Statement I : The marked price of the article was 140% of the cost price.

Statement II : A discount of 21% on the marked price was given on the article.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question.
D. If the data in both statements I and II together are necessary to answer the question.
E. If the data given in both statements I and II together are not sufficient to answer the question.

9. Find the two-digit number.

Statement I : The difference between the digits and the product of the digits of the number are 2 and 15 respectively.

Statement II : The digit at the ten's place is less than the digit at unit's place.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question.
D. If the data in both statements I and II together are necessary to answer the question.
E. If the data given in both statements I and II together are not sufficient to answer the question.

10. If two taps, T1 and T2 are opened simultaneously, how long would it take for the empty tank to be filled to 50% of its capacity?

Statement I : T1 can fill the empty tank in 12 hours.

Statement II : T2 can empty 50% the tank in 10 hours.

A. If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question
B. If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
C. If the data either in statement I alone or in statement II alone is sufficient to answer the question.
D. If the data in both statements I and II together are necessary to answer the question.
E. If the data given in both statements I and II together are not sufficient to answer the question.

Correct Answers:

1	2	3	4	5	6	7	8	9	10
D	A	A	C	A	E	D	D	D	D

Explanations:

1. Neither of the statements is independently sufficient as the average age and the strength of different classes are mentioned in two different statements.

Combining both the statements, even if the class VIII forms 25% of the total strength, the average age will be less than 17 years.

This is shown below:
Let the strength of the school be 10k and that of the class VIII students be 2.5k. In that case the strength of the remaining classes is 7.5k. Hence, the average age of the school

$$\rightarrow \frac{2.5k \times 18 + 7.5k \times 16}{10k} = 16.5 \text{ years}$$

Hence, the average age will be less than 17 years. If the strength of the VIII class is less than 25%, the average age would be less than 16.5 years.

Hence, option D is correct.

2. From I alone,

Joined	**Retired**
2000 or before = 17	2020 or before = 6
After 2000 = 3	After 2020 = 14

Assuming, that the six persons who retired in or before 2020 are from the 17 persons who joined before 2000, the least number of people who had at least 20 years of service is (17 – 6) = 11

Hence, I alone is sufficient.

From II alone,

Joined	**Retired**
2000 or before = 6	Before 2020 = 6
After 2020 = 14	2020 or after = 14

The least number of people who have at least 20 years of service could be (20 – 0) = 20 or (6 – 6) = 0.

Hence, II alone is not sufficient.
Hence, option A is correct.

3. **From statement I,**

The time taken by A to cross B, when they move in opposite directions is half the time taken by A to cross B, when they move in the same direction.

i.e., $\frac{(l_a + l_b)}{(S_a + S_b)} = \frac{(l_a + l_b)}{2(S_a - S_b)}$

using this $S_a : S_b$ can be found as 3 : 1

As the length of train A is less and it moves at a faster rate, it takes less time to cross the platform, irrespective of the platform length.

Statement II alone is not sufficient, as it does not mention the ratio of the speeds of trains A and B.

Hence, option A is correct.

4. Let the speed of the boat in still water be x kmph and that of the stream be y kmph. From statement I, we have the boat moving opposite the stream. Also let the distance between P and Q be d. Then,

$2\frac{d}{x+y} = \frac{d}{x-y}$ $\Rightarrow 2x - 2y = x + y$

$\rightarrow x = 3y$

Hence, we can say that speed of the boat in still water is thrice that of the stream.

From statement II, we have the downstream speed of the boat = $\frac{8}{2/3}$ = 12 kmph

Also, we have upstream speed of the boat $\frac{16}{4}$ = 4 kmph

Now, x and y can be compared.

Hence, option C is correct.

5. From statement I, Rani and Supriya take 5 days to complete the project implies one of them (Rani or Supriya) takes less than 10 days and the other takes more than 10 days. Supriya and Amita take 10 days to complete the project implies one of them (Supriya or Amita) takes less than 20 days and the other takes more than 20 days. Supriya cannot take less than 10 days because if Supriya takes less than 10 days than Supriya and Amita should take less than 10 days to complete the project.(but given Supriya and Amita take 10 days to complete the project).

Rani takes less than 10 days and she is the fastest.

From statement II, we do not know anything about Supriya, so who is fastest cannot be determined.
Hence, option A is correct.

6. Sum of ages of Julia, Rani, Amelia, and Sonia is 91, i.e.

$\Rightarrow j + r + a + s = 91$

From statement I:

Ratio of ages of Sonia and Julia 6 years ago was 9 : 7, i.e.

$$\Rightarrow \frac{s-6}{j-6} = \frac{9}{7}$$

From statement II :

Ratio of ages of Julia and Amelia after 10 years will be 6 : 7, i.e.

$$\Rightarrow \frac{j+10}{a+10} = \frac{6}{7}$$

We can't solve the question with these two statements.

Hence, option E is correct.

7. **From statement I :**

Rahul + Priyanka = 160 cm ..... (i)

From statement II :

Robert = 39 × 3 = 117 cm .....(ii)

Adding equations (i) and (ii)

Rahul + Priyanka + Robert = 160 + 117 = 277 cm

∴ Both statements are required to answer the question.

Hence, option D is correct.

8. Given cost price = Rs.100

From Statement I :

Say cost price = X

Then, Marked price = 140% of X = 1.4X

From statement II :

Selling price = Marked Price (1 – Discount%) = Marked price (1 – 21%)

Now if we combine Statement I & statement II

Selling price = (1.4X) × (79/100)

Profit (Gain) = 1.106X

Gain percentage = 10.6%

∴ Statements I and II together are sufficient to answer the question.

Hence, option D is correct.

9. Let unit's digit be m and ten's digit is n, then

From statement I:

The product of the digit is 15 and the difference between the digits is 2.

⇒ m × n = 15 …(1)

⇒ m – n = 2 or n - m = 2

⇒ m = n + 2 or n = m + 2

Putting these two values in equation 1 we get;

⇒ mn = 53 or mn = 35

∴ Statement I is not sufficient to reach at the solution.

From statement II:

The digit at the unit's place is greater than the other.

Statement II alone is also not sufficient.

But using both, we can get the answer.

Hence, option D is correct.

10. **From statement I:**

Tap T1 can fill the empty tank in 12 hours,

∴ In 1 hour it can fill $1/12^{th}$ part of the tank.

From statement II:

Tap T2 can empty '50%' the tank in 10 hours

It can empty the full tank in 20 hours

∴ In 1 hours it can empty $1/20^{th}$ part of the tank

Combining the two statements:

The part of the tank filled in 1 hour

$= \frac{1}{12} - \frac{1}{20} = \frac{5-3}{20} = \frac{1}{30}^{th}$ part

∴ The tank will be filled in 30 hours.

∴ 50% tank will be filled in 15 hour.

∴ Both statements are required to answer the question.

Hence, option D is correct.