Bipin Nambiar
(SBI PO 2018)

Shiraz Khan
(SBI Clerk 2018)

Kuldeep Yadav
(SBI PO 2018)

Rajat Saxena
(IBPS Clerk 2018)

Anupam Tyagi
(IBPS PO 2018)

FRIENDS!
WE USED TESTZONE
AND CRACKED BANK EXAMS

बैंक परीक्षाओ के लिए निश्चित
रूप से सर्वश्रेष्ट मॉक
टेस्ट सीरीज

IT'S YOUR TURN NOW
TAKE A FREE MOCK TEST

Smartkeeda
The Question Bank

Data Sufficiency Questions for IBPS PO Pre, IBPS Clerk, LIC AAO, RBI Assistant, RRB Scale I Pre, SBI PO Pre and SBI Clerk Exams

Data Sufficiency Quiz 12

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

1. There are three people A, B and C. Find the time taken by C to complete the whole work.

Statement I: A and B together can complete the work in 16 days while B and C can complete the whole work in 20 days.

Statement II: A and B together can complete the work in 16 days. Efficiency of A and B is same.

   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. A shopkeeper sold two items of same marked price of Rs. 1500 at a profit of 20% and 25% respectively. Find the selling price of item B.

Statement I: The discount offered by the shopkeeper for item A is 20% and the ratio of the cost price of item A to the cost price of item B is 10: 11 respectively

Statement II: The selling price of item A and selling price of item B are in the ratio of 48: 55, respectively

- A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- C. Either Statement I or Statement II alone is sufficient to answer the question.
- D. The data in both the statements I and II is not sufficient to answer the question.
- E. The data in both the statements I and II together is necessary to answer the question.

3. Ram invested a sum of Rs. 80, 000 in scheme A offering simple interest. What is the interest earned by him after 2 years?

Statement I: If Rajan had invested the same money for same time at the same rate of interest but compounded annually, he would have gained Rs. 1800 more

Statement II: Scheme B offers an interest rate of 10%, compounded annually. If Rajan had invested the money partially in Scheme A and rest in scheme B, then the interest earned by him after 2 years will be Rs. 15600

- A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- C. Either Statement I or Statement II alone is sufficient to answer the question.
- D. The data in both the statements I and II is not sufficient to answer the question.
- E. The data in both the statements I and II together is necessary to answer the question.

4. A man mixes 20 litres of water in a mixture P of milk and water such that the ratio of milk and water becomes equal in the mixture P. Another mixture Q, contains milk and water in the ratio 2: 1 respectively. Now, if 25% of mixture P is added into mixture Q, then find the quantity of milk in the resultant mixture Q.

Statement I: Initially the ratio of water to milk in the mixture P was 3: 8, respectively and the quantity of milk in mixture Q initially was 15 litres more than the quantity of water in mixture Q initially

Statement II: Initially the ratio of water to milk in the mixture P is 3: 8, respectively and the ratio of milk to water in the mixture Q is 38: 23, respectively, after adding 25% mixture of P.

    A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.

    B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.

    C. Either Statement I or Statement II alone is sufficient to answer the question.

    D. The data in both the statements I and II is not sufficient to answer the question.

    E. The data in both the statements I and II together is necessary to answer the question.

5. Find the value of x

Statement I: Ram and Shyam started a company where their investment is in the ratio of 5: x respectively. After 2 months, Ganshayam joined them such that the ratio of the initial investment of Shyam and Ganshayam is 7: 8 respectively. After a year, they received a total profit of Rs. 16800

Statement II: The profit share of Ganshayam after a year is Rs. 6000 out of total profit of Rs. 16800

    A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.

    B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.

    C. Either Statement I or Statement II alone is sufficient to answer the question.

    D. The data in both the statements I and II is not sufficient to answer the question.

    E. The data in both the statements I and II together is necessary to answer the question.

6. A boatman has to travel from A to B and from B to C via his boat. The distance between A and B is (x + 40) km and the distance between B and C is (3x – 60) km. The total time taken by boatman to travel from A to B downstream, and B to C upstream in 12 hours, and the total time taken by him to travel back from C to B downstream and B to A upstream is 10.5 hours. Find the speed of the stream.

Statement I: The ratio of downstream speed to the upstream speed is 2: 1
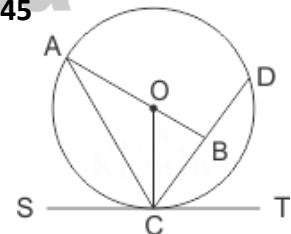
Statement II: The ratio of distance between A to B and B to C is 2: 3

- A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- C. Either Statement I or Statement II alone is sufficient to answer the question.
- D. The data in both the statements I and II is not sufficient to answer the question.
- E. The data in both the statements I and II together is necessary to answer the question.

7. ST is a tangent to a circle with centre O at C which makes 45 degree with the chord CD. Find the perimeter of the triangle AOC

Statement I: CD = 10 and points AOB is in the same straight line

Statement II: OB is perpendicular to CD

- A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- C. Either Statement I or Statement II alone is sufficient to answer the question.
- D. The data in both the statements I and II is not sufficient to answer the question.
- E. The data in both the statements I and II together is necessary to answer the question.

8. What is the probability of picking three green balls from a bag of 49 balls containing 24 red balls?

Statement I: The number of red balls in the bag is twice the number of blue balls in the bag

Statement II: The number of white balls in the bag is one less than the number of green balls in the bag. There are balls of five different colors in the bag

   A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
   B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
   C. Either Statement I or Statement II alone is sufficient to answer the question.
   D. The data in both the statements I and II is not sufficient to answer the question.
   E. The data in both the statements I and II together is necessary to answer the question.

9. There are group of five persons i.e. A, B, C, D and E. Find the total weight of B, C and E together.

Statement I: Average weight of all the five persons is 63 kg and the total weight of A, B and C together is 201 kg. The total weight of B and C together is 131 kg.

Statement II: The total weight of A, D and E together is 184 kg and the total weight of B and D together is 144 kg. Average weight of all the five persons is 63 kg.

   A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
   B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
   C. Either Statement I or Statement II alone is sufficient to answer the question.
   D. The data in both the statements I and II is not sufficient to answer the question.
   E. The data in both the statements I and II together is necessary to answer the question.

10. If 'a' and 'b' are integers, then what is the average value of 'a' and 'b'?

Statement I: $\dfrac{a}{b} + \dfrac{b}{a} = a + b$

Statement II: $\dfrac{a}{b} + \dfrac{b}{a} = a^2 + b^2$

A. The data in statements I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
B. The data in statements II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
C. Either Statement I or Statement II alone is sufficient to answer the question.
D. The data in both the statements I and II is not sufficient to answer the question.
E. The data in both the statements I and II together is necessary to answer the question.

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

Explanation:

1. **Statement I:**

Let, total work be LCM of (16, 20) = 80 units

One day's work of A and B together = $\dfrac{80}{16}$ = 5 units

One day's work of C and B together = $\dfrac{80}{20}$ = 4 units

One day's work of (A + 2B + C) = 5 + 4 = 9 units

Statement II:

As, efficiency of A and B is same, so time taken by each of A and B to complete the work = 16 × 2 = 32 days

One day's work of B or A = $\dfrac{80}{32}$ = 2.5 units

Using both statements:

One day's work of C = 9 − 3 × 2.5 = 1.5 units

Time taken by C to complete the work

= $\dfrac{80}{1.5}$ = $\dfrac{160}{3}$ days

So option (D) is the correct answer.

2. **Statement I:**

Marked price of item A = marked price of item B

Discount offered in item A = 20%

Selling price of item A = 0.8 × 1500 = Rs. 1200

Cost price of item A = $\dfrac{1200}{1.2}$ = Rs. 1000

Cost price of item B = $\dfrac{11}{10}$ × 1000 = 1100

Selling price of item B = 1100 × 1.25 = 1375

So, statement I alone is sufficient to answer the question

Statement II:

We cannot find the cost price or selling price of any article

So, statement II alone is not sufficient to answer the question

Hence, option A is correct.

3. **Statement I:**

Let the rate of interest = r%

So, simple interest after 2 years

$= \dfrac{80000 \times 2 \times r}{100}$ = 1600r

Compound interest earned after 2 years

$$= 80000 \left\{ (1 + \frac{r}{100})^2 - 1 \right\} = 8(r^2 + 200r)$$

$$(8r^2 + 1600r)$$

According to the question,

$$(8r^2 + 1600r - 1600r) = 1800$$

$$8r^2 = 1800$$

$$r = 15\%$$

So, interest earned in scheme A after 2 years

$$= \frac{80000 \times 2 \times 15}{100} = \text{Rs. } 24000$$

So, statement I alone is sufficient

Statement II:

Let the money invested in scheme A = x

Let the money invested in scheme B = 80000 − x

Let the rate of interest in scheme A = r%

According to the question,

$$x \times r \times \frac{2}{100} + (80000 - x) \times \left\{ (1 + \frac{10}{100})^2 - 1 \right\} = 15600$$

$$\frac{2xr}{100} + (80000 - x) \times (\frac{21}{100}) = 15600$$

$$2xr + 1680000 - 21x = 1560000$$

$$21x - 2xr = 120000$$

Here we have two unknown variables so it is not possible to solve this equation

So, statement II alone is not sufficient to answer the question

Hence, option A is correct.

4. **Statement I:**

Let the quantity of milk and water in mixture P initially be 8x and 3x respectively

So, 8x = 3x + 20; x = 4

So the quantity of milk in the mixture P initially = 32 litres

So the quantity of water in the mixture P initially = 12 litres

So the quantity of water in the mixture P after adding 20 litres of water = 32 litres

Let the quantity of milk and water in mixture Q initially be 2y and y respectively

2y – y = 15; y = 15

Quantity of milk in the resultant mixture Q = 25% of 32 + 2 × 5 = 38 litres

So, statement I alone is sufficient to answer the question

Statement II:

Initially ratio of milk and water in mixture P = 8 : 3

Let the quantity of milk and water in mixture P initially be 8x and 3x respectively

So, 8x = 3x + 20; x = 4

So the quantity of milk in the mixture P initially = 32 litres

So the quantity of water in the mixture P initially = 12 litres

So the quantity of water in the mixture P after adding 20 litres of water = 32 litres

Let the quantity of milk and water in mixture Q initially be 2y and y respectively

$$\frac{25\% \text{ of } 32 + 2y}{25\% \text{ of } 32 + y} = \frac{38}{23} \text{ ; } y = 15$$

Quantity of milk in the resultant mixture Q = 25% of 32 + 2y = 38 litres

So, statement II alone is sufficient to answer the question

Hence, option C is correct.

5. **Statement I:**

Ratio of investment: Ram: Shyam: Ganshayam = 5 × 7 : x × 7 : 8 × x = 35 : 7x : 8x

Ratio of profit share = Ram: Shyam: Ganshayam = 35 × 12 : 7x × 12 : 8x × 10 = 210 : 42x : 40x

Total profit = Rs. 16800

Let, constant be k,

(210 + 42x + 40x) k = 16800

Statement II:

Ganshayam's share = Rs. 6000

Using I and II together, we get

$$\frac{40x}{210 + 42x + 40x} = \frac{6000}{16800}$$

$$\frac{40x}{210 + 82x} = \frac{15}{42}$$

$$1680x = 3150 + 1230x$$

$$450x = 3150$$

$$x = \frac{3150}{450} = 7$$

Hence, option E is correct.

6. Let the speed of boat and stream be 'y' and 's' km/hr respectively

Downstream = y + s; upstream = y − s

According to the question:

$$\frac{x + 40}{y + s} + \frac{3x - 60}{y - s} = 12 \text{ and } \frac{x + 40}{y - s} + \frac{3x - 60}{y + s} = 10.5$$

From I: $\frac{y + s}{y - s} = \frac{2}{1}$; y = 3s

$$\frac{x + 40}{y + s} + \frac{3x - 60}{y - s} = 12$$

From above we get 7 x − 80 = 48s

$$\frac{y + s}{y - s} = \frac{2}{1} ; \text{ y = 3s and } \frac{x + 40}{y - s} + \frac{3x - 60}{y + s} = 10.5$$

From above we get 5x + 20 = 42s

From 7 x – 80 = 48s and 5x + 20 = 42s, we get s = 10 km/hr

So statement I alone is sufficient

From II: $\dfrac{x + 40}{3x - 60} = \dfrac{2}{3}$; x = 80

So, from $\dfrac{x + 40}{y + s} + \dfrac{3x - 60}{y - s} = 12$ and $\dfrac{x + 40}{y - s} + \dfrac{3x - 60}{y + s} = 10.5$

We get, y = 3s and s = 10

So statement II alone is sufficient

Hence, option C is correct.

7.   **Statement I:** Given angle BCT = 45 and CD = 10, angle OCT = 90 and angle OCB = 45

So, statement I alone is not sufficient

Statement II: Given angle BCT = 45 and CD = 10, angle OCT = 90 and angle OCB = 45

Since, we need to find the perimeter of the triangle AOC

So we require data related to the length of some side

So, statement II alone is also not sufficient

On combining,

Given angle BCT = 45 and CD = 10, angle OCT = 90 and angle OCB = 45

Since, OB is perpendicular to CD, angle OBC = 90 therefore, angle BOC = 45

So, triangle OBC is an isosceles triangle with OB = BC

Since, O is the centre of the circle and OB is perpendicular to the chord CD

So, BC = BD = 5 cm

Then OB = 5 cm

OC = 5√2

In triangle AOC

AO = OC = 5√2

AC = 13 cm

So, perimeter = 27

Hence, option E is correct.

8.   From question,

Number of red balls = 24

From Statement I

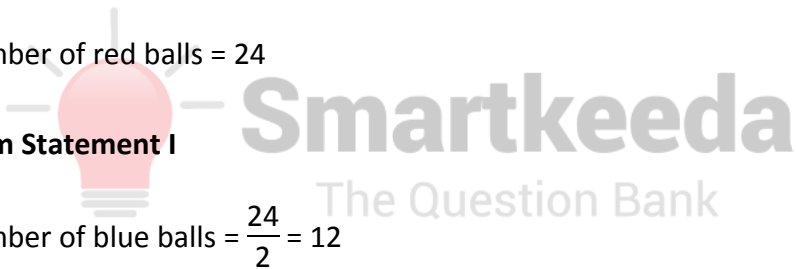Number of blue balls = $\dfrac{24}{2}$ = 12

From Statement II

Number of white balls = Number of green balls – 1

There are balls of five different colors in the bag

Thus, even after using the data in statement I and II together, we cannot determine the number of green balls in the bag

Hence, option D is correct.

9. **Statement I:**

Total weight of A, B and C together = 201 kg

Total weight of D and E together = 63 × 5 − 201 = 315 − 201 = 114 kg

Total weight of B and C together = 131 kg

Weight of A = 201 − 131 = 70 kg

So, statement I alone is sufficient to answer the question

Statement II:

Total weight of A, B, C, D and E = 63 × 5 = 315 kg

Total weight of A, D and E together = 184 kg

Total weight of B and C together = 63 × 5 − 184 = 315 − 184 = 131 kg

Total weight of B and D together = 144 kg

Total weight of A, C and E together = 315 − 144 = 171 kg

So, statement II alone is sufficient to answer the question

Combining statement I and II:

Total weight of A, B and C together = 201 kg

Total weight of D and E together = 63 × 5 − 201 = 315 − 201 = 114 kg

Weight of D = 114 − weight of E

Total weight of B and C together = 131 kg

Weight of A = 201 − 131 = 70 kg

Total weight of A, D and E together = 184 kg

Total weight of B and C together = 63 × 5 − 184 = 315 − 184 = 131 kg

Total weight of B and D together = 144 kg

Total weight of A, C and E together = 315 – 144 = 171 kg

Weight of A and E together = 171 – weight of C

So, 184 – weight of D = 171 – weight of C

So, 184 – (114 – weight of E) = 171 – weight of C

So, 70 + weight of E + weight of C = 171

So, weight of E + weight of C = 101

So, we cannot find out the weight of E using the above information.

So, both statements I and II together are not sufficient to answer the question

Hence, option D is correct.

10. **Statement I:** $\dfrac{a}{b} + \dfrac{b}{a+b} = a$

Since 'a' and 'b' are integers

Therefore only a = b = 1 satisfy the above equation

So, average = $\dfrac{1+1}{2}$ = 1

So, statement I alone is sufficient to answer the question

Statement II: $\dfrac{a}{b} + \dfrac{b}{a} = a + b$

$\dfrac{a^2 + b^2}{ab} = a^2 + b^2$

ab = 1

Therefore, both a = b = 1 and a = b = – 1 satisfy the above equation

So, average = $\dfrac{1 + 1}{2} = 1$; $\dfrac{-1 - 1}{2} = -1$

So, statement II alone is not sufficient to answer the question

Hence, option A is correct.