Quantity comparison

Pre | main

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BYJU'S EXAM PREP

SBI PO Prelims 2021

EXAM ANALYSIS

20 NOV SHIFT - 1

सबसे पहले, सबसे बेहतर

LIVE @9:30 AM FROM EXAM CENTER

A path of 3m width needs to be constructed around a circular pond. The area of the path is (9/16) times of the area of the main pond. If the expenditure making the path is 21 Rs. per m2. What is the total amount needed to construct the whole path? [Use π = (22/7)]

A. Rs. 5346

B. Rs. 4040

C. Rs. 5386

D. Rs. 3564

E. None of these

There is a rectangular swimming pool with dimensions 100*30 units. Deep end depth is 15 units & shallow end depth is 3 units. What's the volume of water in pool if it is full up to brim?

The length of the largest possible rod that can be placed in a cubical room is $28\sqrt{3}$m. Find the surface area of the largest possible sphere that fit within the cubical room.

A. 9856 cm2

B. 1848 cm2

C. 2464 cm2

D. 3696 cm2

Direction: Given below are two quantities named I and II. Based on the given information, you have to determine the relation between the two quantities. You should use the given data and your knowledge of Mathematics to choose among the possible answers

दिशा: नीचे दी गई दो मात्राएँ हैं । और ।।। दी गई हैं। दी गई जानकारी के आधार पर, आपको दो मात्राओं के बीच संबंध निर्धारित करना होगा। आपको संभावित उत्तरों के बीच चयन करने के लिए दी गई जानकारी और अपने गणित के ज्ञान का उपयोग करना चाहिए।

I < II

>

≤

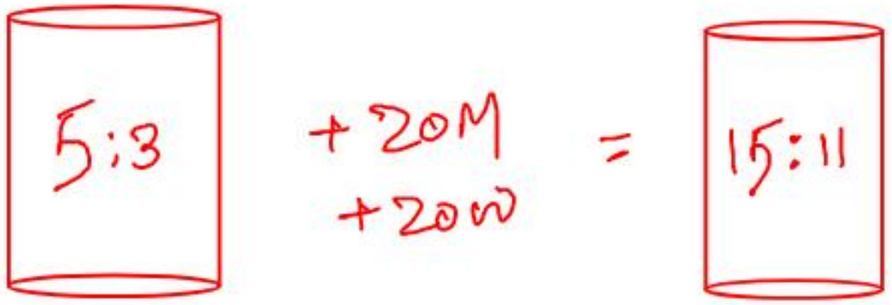
≥

= No Relation

	TYPE-I	TYPE-II	TYPE-III
Quantity-1	Word Problem	2-3 Line Data Part-1	Word Problem-1
Quantity-2	Value or One Variable Equation	Part-2	Word Problem-2

Pre/main

Mains



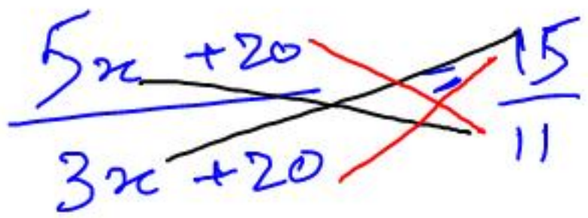
1. Quantity I: The ratio of milk and water in a mixture is 5 : 3. If we added 20 litres milk and 20 litres water in the mixture, then the ratio of milk to the water becomes 15 : 11. The initial quantity of water is: (24)

Quantity II: 40% of 60 is: (24)

A. Quantity I > Quantity II B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation

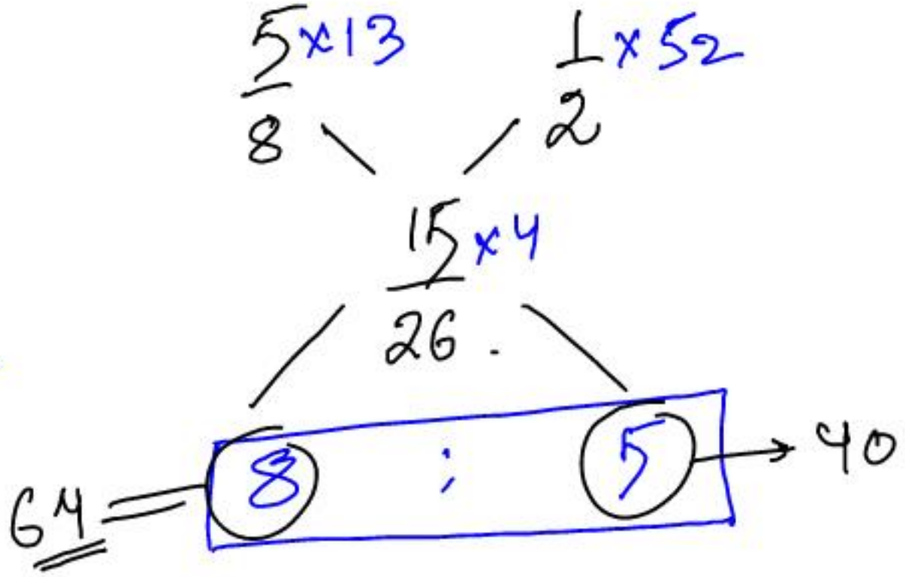


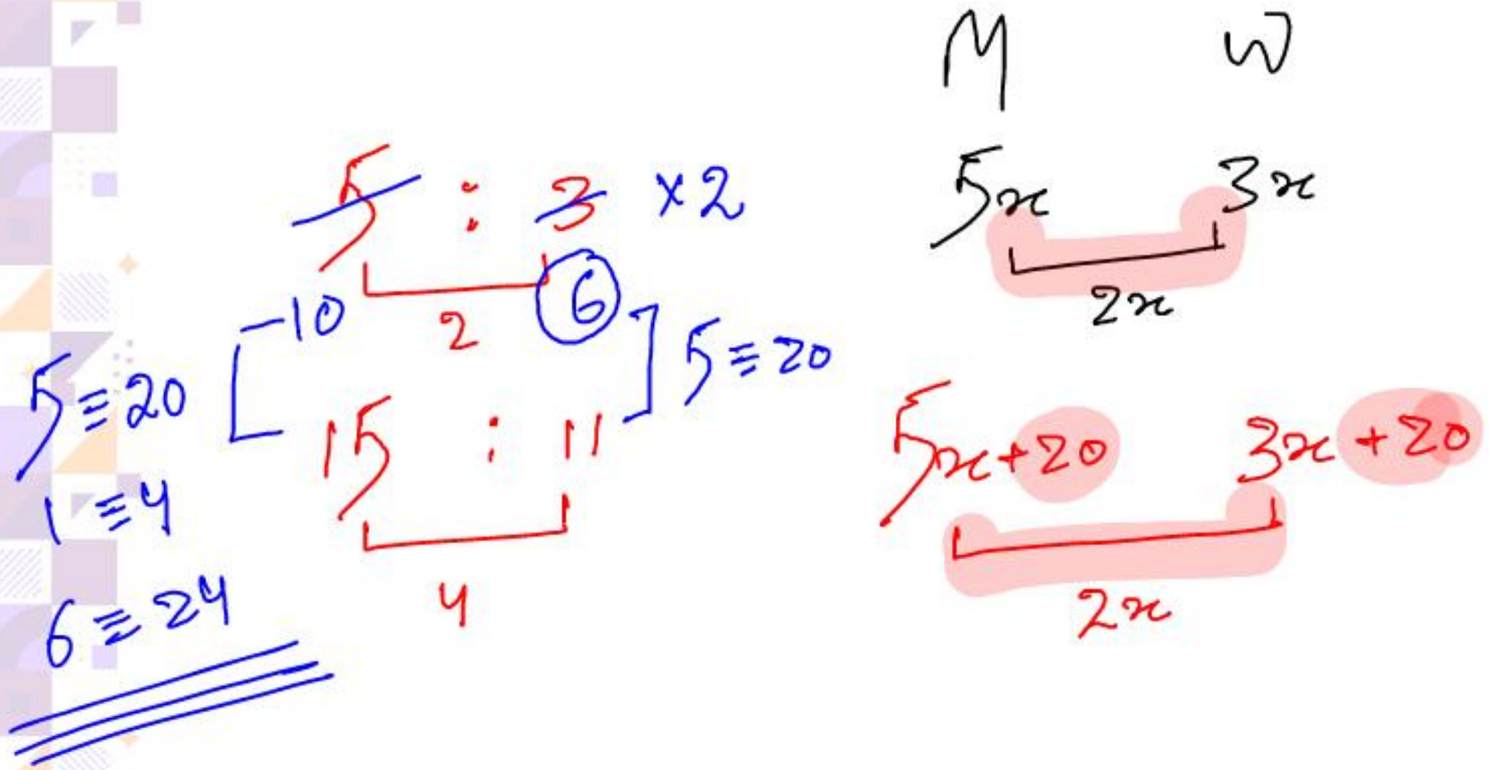
$10x \equiv 80$

$x = 8$

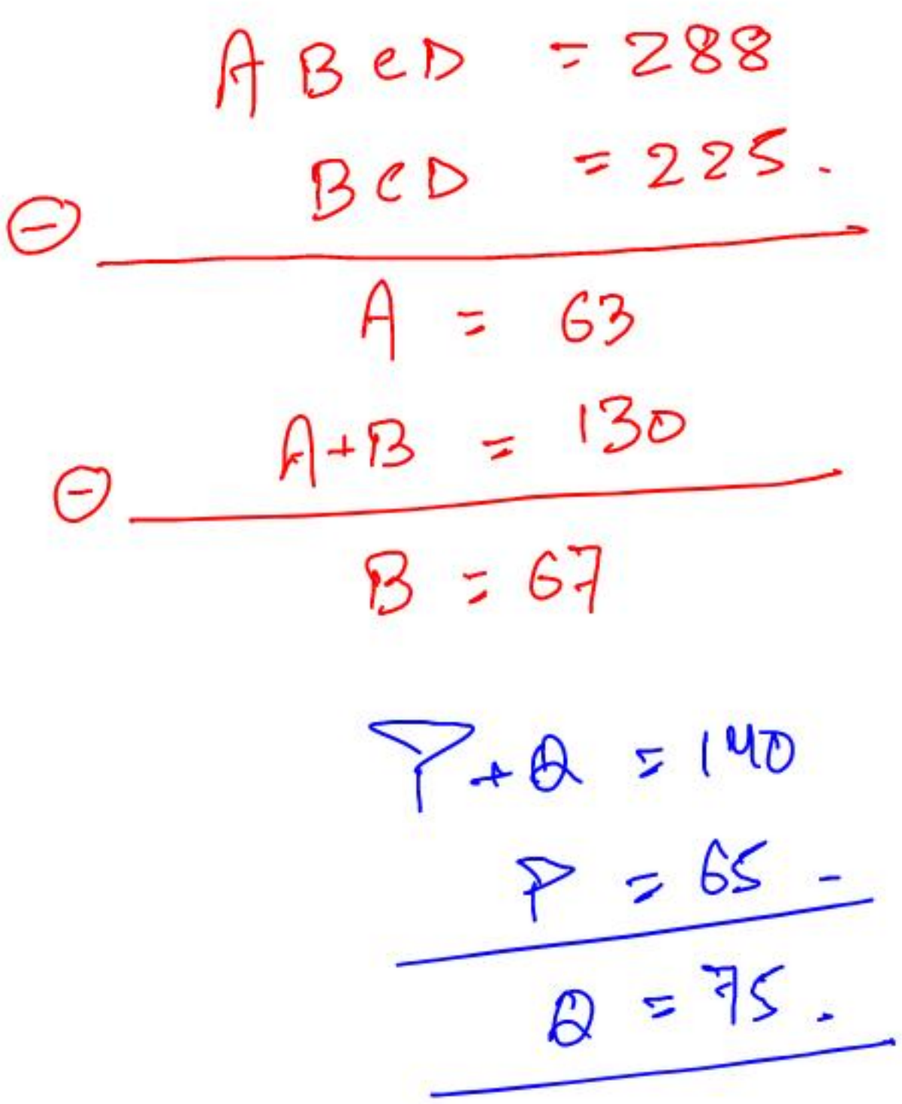
$3x = 24$

104




M
W
5x
3x
2x
5 : 3 x2
-10
2
6
5≡20
15 : 11
5≡20
1≡4
4
6≡24
5x+20
3x+20
2x

Mains -



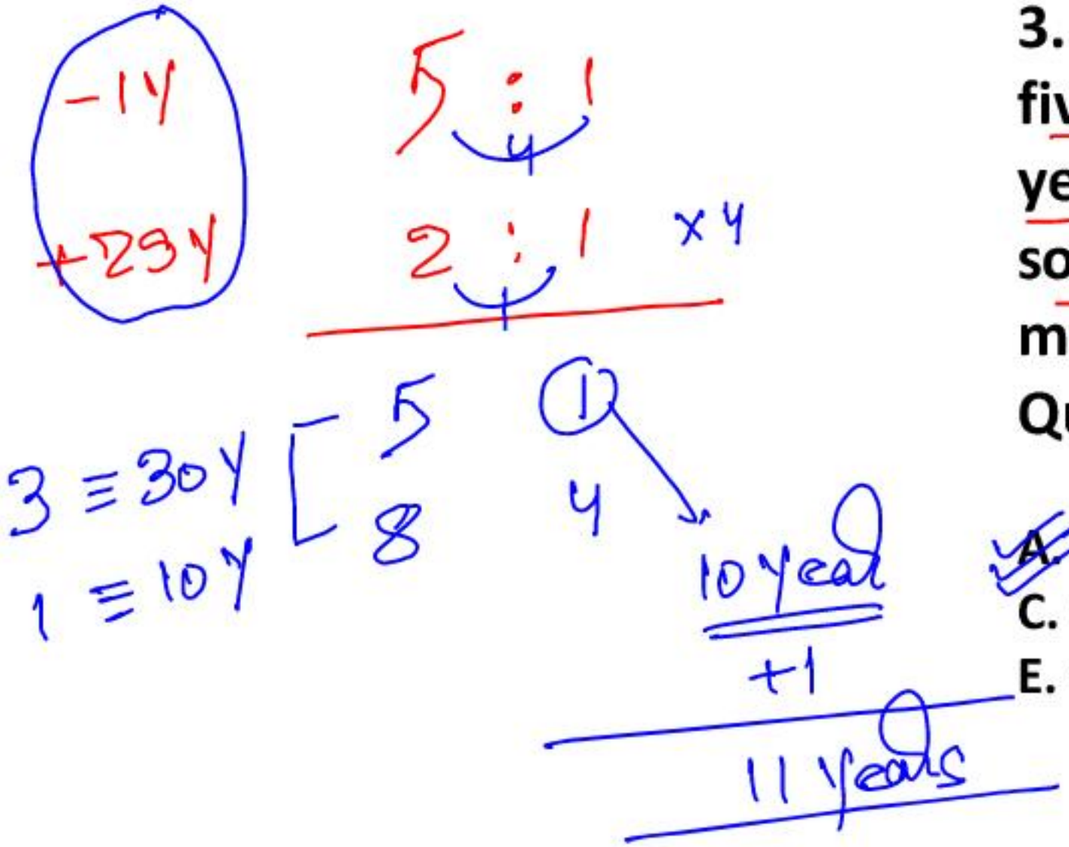
2. Quantity I: Average weight of four persons A, B, C, and D is 72 kg. If the average weight of A and B is 65 kg and the average weight of B, C and D is 75 kg, then the weight of B is: (67)

Quantity II: If the average weight of P and Q is 70 kg and weight of P is 65 kg, then the weight of Q is: (75)

A. Quantity I > Quantity II B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation



3. Quantity I: One year ago, my age was five times of the age of my son and after 29 years, my age becomes twice the age of my son at that time. Then the present age of my son is:

Quantity II: If $x = \sqrt{81}$, then the value of x is:

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

4. Quantity I: The work efficiency of A, B and C are in the ratio 5 : 3 : 4. A alone can complete the work in x days. A, B, and C together complete the work in 10 days. The value of x is:

Quantity II: $24\frac{1}{2}$ days

Hw - (B)

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

Change in Avg × n* = Total change

$+2 \times (n+1) = 60 - A$

$-2 \times (n+1) = 36 - A$

Add

$0 = 96 - 2A$

$A = 48$

6. Quantity I: A family has average weight 'A' kg. Average weight increases by 2 kg if a person is included of 60 kg. If this person has a weight of 36 kg then the average weight of the family would have decreased by 2 kg. Value of 'A' is: 48

Quantity II: 2/3 of 96 is: 64

A. Quantity I > Quantity II B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation

A C B
100 140 100
12

An amount of Rs. 2086 divided among A, B & C . Share of B is 12 times that of A, while share of C is 40% more than that of B.

Quantity I – Share of C (140)

Quantity II – 140% of share of B . = $\frac{140}{100}$

A. Quantity I > Quantity II
B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II
D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

7. 12 men can do a work in 20 days and 18 women can do the same work in 24 days

Quantity I : Time taken by 6 men to complete whole work

Quantity II : Time taken by 8 women to complete whole work.

12M → 20 Days.

6M → 40 Days.

18W → 24 Day

3W → 48 Days.

8W → >48 Days.

A. Quantity I > Quantity II

B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II

D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation

$$\frac{500}{x} - \frac{500}{x+25} = 1$$

$$500\left[\frac{x+25-x}{x(x+25)}\right] = 1$$

$$x^2 + 25x - 12500 = 0$$

$x = -125, 100$

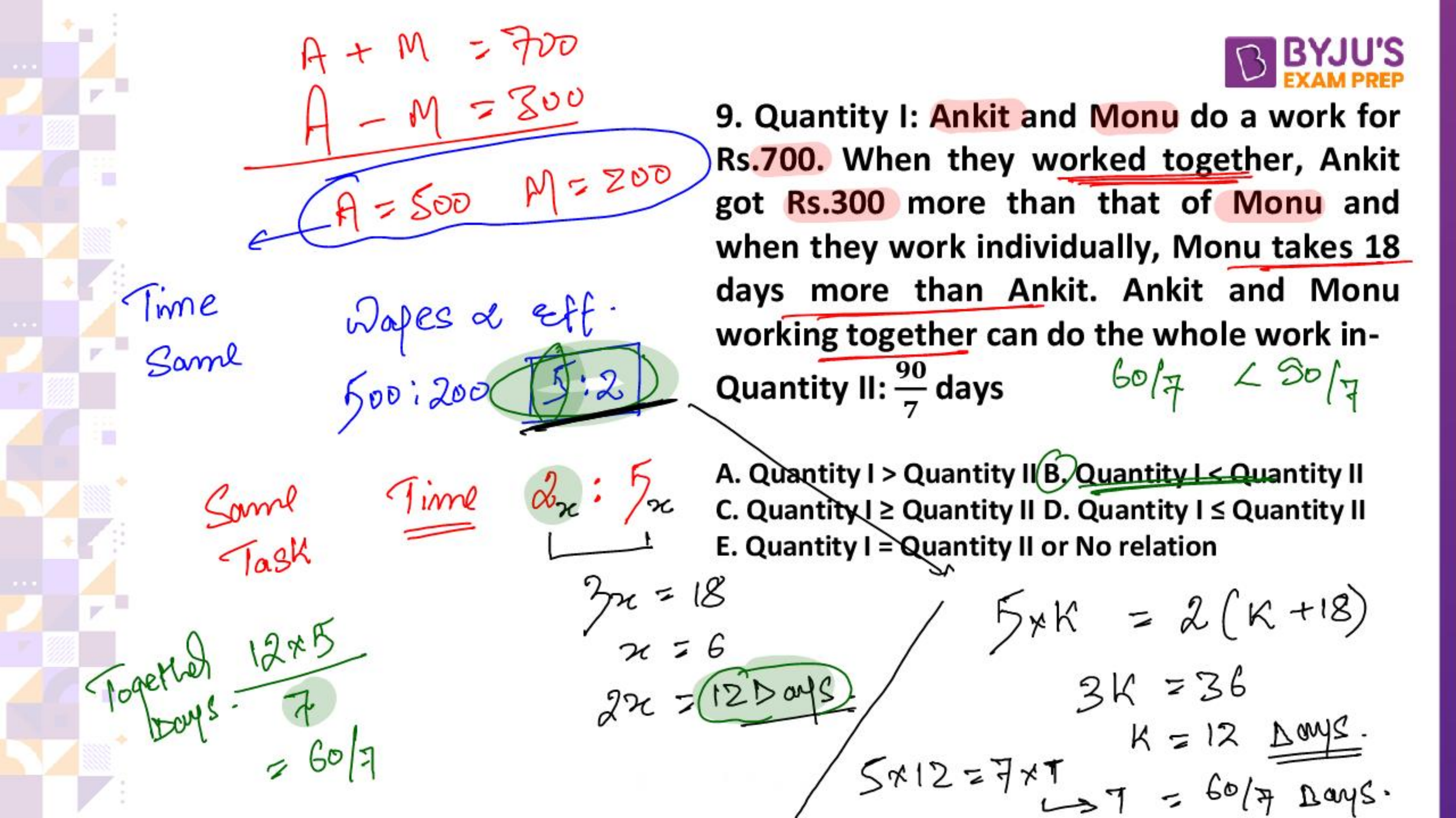
25×50

100×125

8. Quantity I: A train running at the speed of x km/hr left the station 60 minutes later than its scheduled time to reach its destination 500 km away. In order to reach on time, it increases its speed by 25 km/h. The value of x is: 100

Quantity II: Speed of a bus is 25 m/s. Speed of bus in km/hr is: $25 \times \frac{18}{5} = 90$

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation


A + M = 700
A − M = 300
A = 500 M = 200
Time Same
Wages ∝ eff.
500 : 200
5 : 2
Same Task
Time
2x : 5x
3x = 18
x = 6
2x = 12 Days
Together Days = 12×5/7 = 60/7
9. Quantity I: Ankit and Monu do a work for Rs.700. When they worked together, Ankit got Rs.300 more than that of Monu and when they work individually, Monu takes 18 days more than Ankit. Ankit and Monu working together can do the whole work in-
Quantity II: 90/7 days
60/7 < 90/7
A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation
5×K = 2(K+18)
3K = 36
K = 12 Days.
5×12 = 7×T
T = 60/7 Days.

$$\frac{105}{18-R} + \frac{105}{18+R} = 12$$

7 5

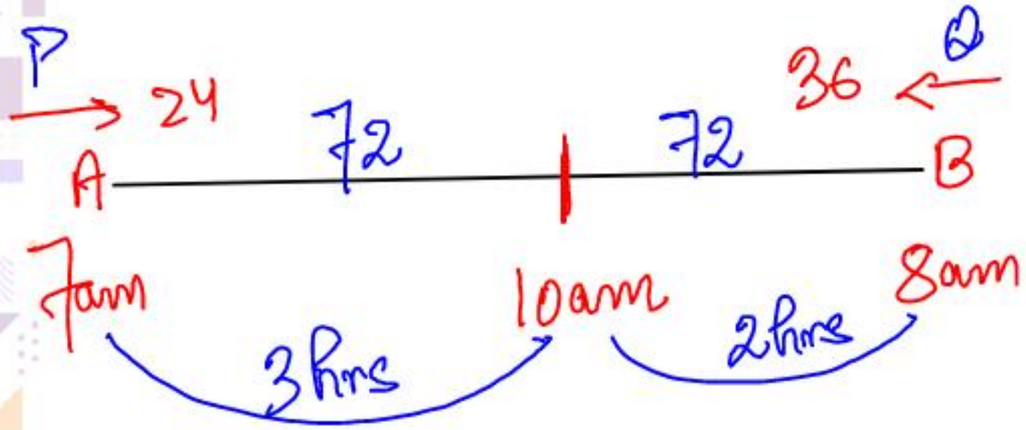
$R = 3$ $R = 3$

10. Quantity I: The speed of a boat in still water is 18 km/hr. In a flowing river, the boat goes 105 km upstream and returns to initial point in 12 hours. The speed of current in km/hr is: 3

Quantity II: 2.5 km/hr

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

Think two no. that divides 105 & their Sum is 12



AB = 144

144

>=

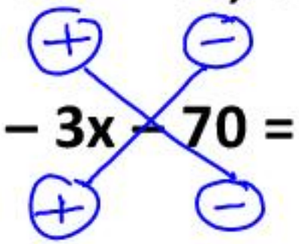
≤144

11. Quantity I: P runs from point A towards point B at the speed of 24 km/hr and Q runs from point B towards A at the speed of 36 km/hr. If P starts running at 7:00 AM and B starts running at 8:00 AM, then they cross each other at 10:00 AM. The distance between the points P and Q is: (144)
Quantity II: Distance ≤ 144 km

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

12. Quantity I: If $x^2 = 100$, then the value of x is:

Quantity II: If $x^2 - 3x - 70 = 0$, then the value of x is:



A. Quantity I > Quantity II B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation

13. Quantity I: A shopkeeper bought an article at 40% discount on marked price and sold it at 10% higher than the marked price. The profit percentage of the shopkeeper is:
Quantity II: 90%

HW- (B)

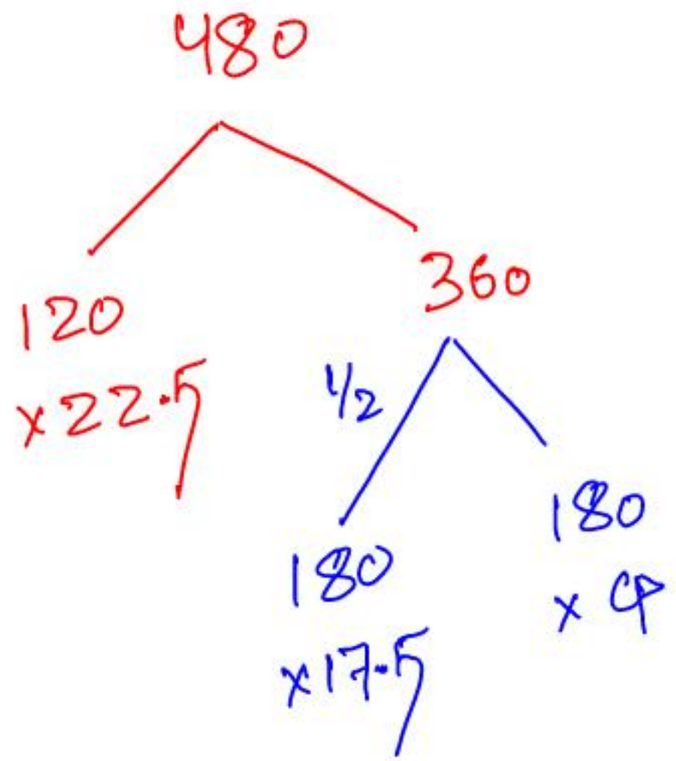
A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

14. Quantity I: A sum of amount becomes two times in 9 years and 5 times in k years at the simple interest. The value of k is:

Hw (E)

Quantity II: If $\frac{t}{2} + 15 = 33$, then the value of t is:

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation



60×45
30×90
90×35.

15. Quantity I: A shopkeeper purchased 480 pens from a whole-seller. He sold 25% of total pens at the rate of Rs. 22.5 each, 50% of remaining at the rate of Rs.17.5 each. If the shopkeeper sold remaining pens at cost price and made a profit equal to the price of 90 pens which he purchased from whole-seller. The price at which each pen was sold to make profit of 40% is: ⟶ 15 + 40% = 22

Quantity-II: 36% of Rs 50 is 18

I > II

P = 90 × CP.

$$[120 \times 22.5 + 180 \times 17.5 + 180\,CP] - 480\,CP = 90\,CP.$$

$$2700 + 3150 = 330\,CP$$

$$CP = \frac{5850}{390} = \frac{45}{3} = 15$$

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16. Quantity I: A and B invested Rs. 20000 together in a business. After six months, B invested an additional amount of Rs. 2000 in his initial investment. If at the end of first year B got Rs. 5850 as the profit share out of the total profit of Rs. 13650. Initial investment of A is: 12000

Quantity II: If A + B ≤ Rs 25000 and B = Rs 11500, then the value of A is: A ≤ 13500

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

A B

$(20-x)\times 2 + x \times 1$: $(x+2)\times 1$

$(20-x)2 : 2x+2$

$20-x : x+1$

$\frac{5850}{13650} = \frac{x+1}{20}$

$7x+7 = 60$

$x = \frac{53}{7} \approx 8000$

12000

>/<

10000 13500

17. Quantity I: A and B are standing at same point. Speed of A is x km/hr and speed of B is 4 km/hr. If they both start moving in the same direction at the same time, then after 4 hours they will be 20 km apart. Then the value of x is:
Quantity II: A man covers 300 metres in two minutes. Speed of man in km/hr is:

A. Quantity I > Quantity II B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

Ans. B

HW -

P Q R

256 : 160 : 100

64 : 40 : 25

128 : 80 : 50

P 64

Q 40

R 25

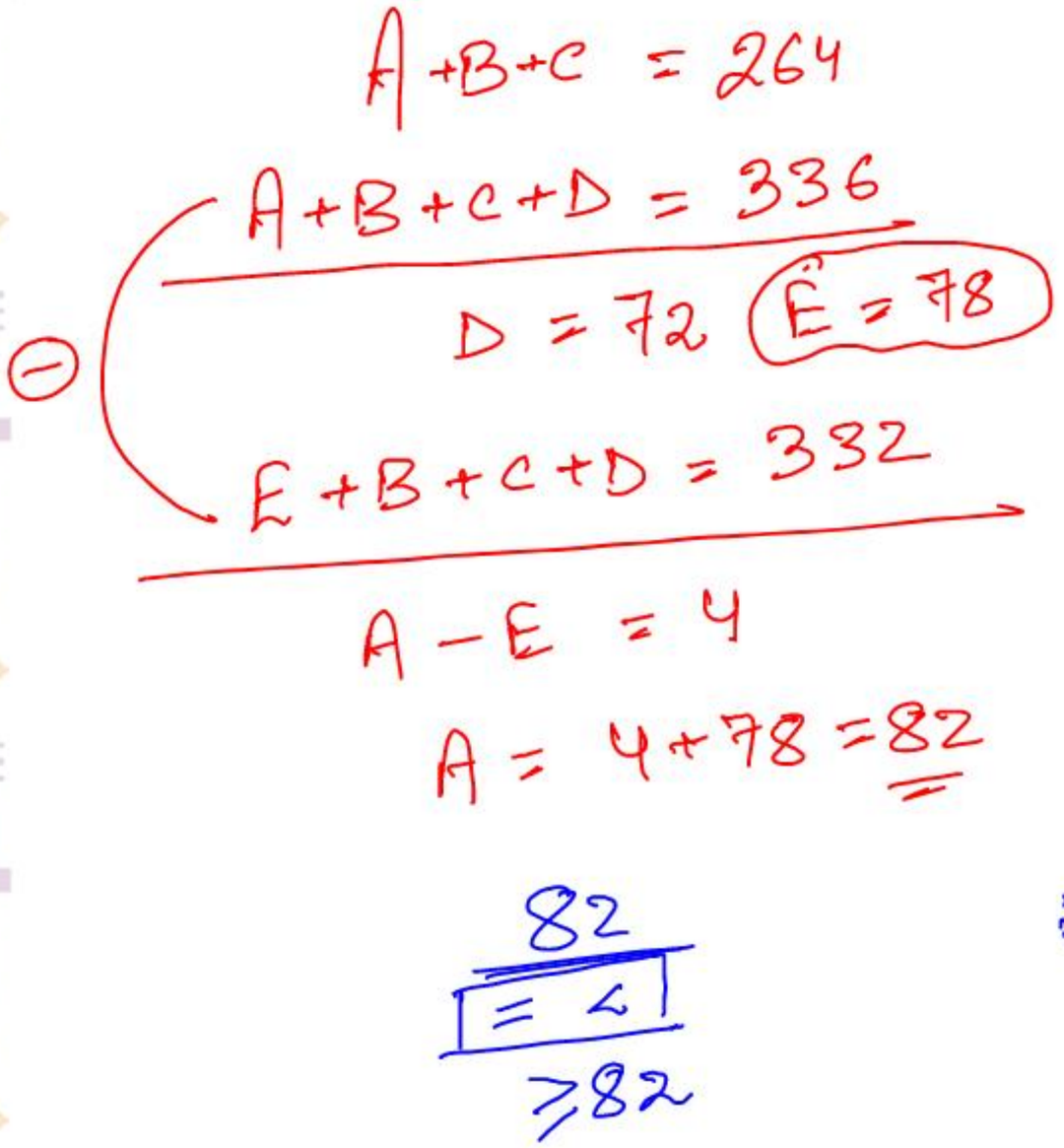
125

18. Quantity I: A two-digit number P is 160% of another two-digit number Q, which is 160% of another two-digit number R. Then the sum of the numbers P, Q and R is:

Quantity II: 140

A. Quantity I > Quantity II
B. Quantity I < Quantity II
C. Quantity I ≥ Quantity II
D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

Ans. B



19. Quantity I: Three friends Ankit, Bholu and Chetan has average weight of 88 Kg. Average weight of the four friends becomes 84 Kg when Divya joins them. If Ankit is replaced by Enayat whose weight is 6 kg more than Divya, the average weight of Bholu, Chetan, Divya and Enayat becomes 83 Kg. Ankit's weight in kg is:

Quantity II: x ≥ 82 kg

A. Quantity I > Quantity II

B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II

D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation

Ans. D

20. Quantity I: Gautam invested Rs x in a mutual fund at S.I. for 2 years at 12 percent per annum. If the interest was compounded annually, Gautam would have earned Rs. 216 more. What is the value of x?

Quantity II: $x \leq 15000$

HW -

A. Quantity I > Quantity II

B. Quantity I < Quantity II

C. Quantity I ≥ Quantity II

D. Quantity I ≤ Quantity II

E. Quantity I = Quantity II or No relation

Ans. C

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