Statement Test 3

1. Time taken by boat to travel Z km downstream distance is 4 hours more than time taken by boat to travel (Z – 29Y) km upstream distance. Speed of boat in still water is 3.5 times more than that of speed of stream. Time taken by boat to travel 44Y km downstream distance is 8 hours, while time taken by boat to travel (Z – 15Y) km upstream is T hours. Find the value of (T + 4).
1.12 2.7.5 3.11.5 4.11.833 5.None of these

2. A vessel contains Z ml mixture of milk and water in which water is 1/3rd as that of milk. On removal of 4Y ml mixture and then added Y ml water, then % of water in mixture becomes 40%. Further, removal of 2Y ml mixture and then added 1.5Y ml milk. Now find the Total amount of mixture. 1.6Y ml 2.4.5Y ml 3.4Y ml 4.4.8Y ml 5.5Y ml

3. There are six members in a family – P, Q, R, S, T, and U. Average of P, Q, and R together after five years is 50 years, and sum of ages of P and R is Z years. Sum of present ages of Q, S, and U together is Y years. Find (Z - Y). Statement I. The average present age of S and T together is 67.5 years. **Statement II.** The sum of ages of all members – Age of U > 500
Statement III. The average present age of Q and U together is 55 years.
1.I and II only 2.II and III only 3.I and III only 4.I, II and III 5.None of these

4. An article is marked up by 3Z and sold at a discount of (2Z/5) %, while if the same article is sold out at loss of (0.4) Z%, then the selling price of the article becomes 180 less than the actual selling price. Quantity I. Find the value of (25Z – 1500) **Quantity II.** 1000 1.Quantity I > Quantity II 2.Quantity I < Quantity II 3.Quantity I = Quantity II 4.Quantity I ≥ Quantity II 5.Quantity I ≤ Quantity II

5. A right circular cylindrical vessel of Radius Z cm, contains water. The amount of water in vessel poured into Y number of hemispherical bowls such that each bowl is completely filled. The capacity of each bowl is $11Z^3/42$ m^3, and height of cylindrical vessel is (49π/22) meters more than its radius. Height of cylinder is an integral value. Use π = 22/7.
Find which of the following is/are possible value of Y. I. 13 **II.** 8 **III.** 16 **IV.** 17
1.I only 2.II and III only 3.I, III and IV only 4.I and III only 5.None of these

6. The present age of A, B and C is consecutive prime integers and A is 10 years younger than C, who is the eldest among all three. The present age of A is not less than 15 years but the present age of C is less than 40 years. B is __(X)__ years older than A but __(Y)__ years younger than C. Which of the following must be true? i) Both (X) and (Y) are composite numbers. **ii)** (X) is a perfect square. **iii)** (Y) is a smallest multiple of 8.
1.Only i) 2.Both i) and ii) 3.Both ii) and iii) 4.All i), ii) and iii) 5.None is true

7. A person invested Rs. (400X) in a scheme, which offers compound interest at the rate of 10% per annum compounded annually and received Rs. 6620 as compound interest after 3 years. If the same sum was invested in another scheme, which offers simple interest at the rate of (X/2)% per annum, then the simple interest received after (Y) years will be Rs. 10000. Find the value of (X/Y).
1.25 2.20 3.15 4.30 5.50

8. P, Q and R can complete a piece of work in __(M)__ days, 20 days and __(N)__ days respectively. If P and Q together complete 60% of the total work in 4 days. While P and R together complete 2/3rd of the total work in 5 days. Find the correct statement. i) (M) is thrice of (N). **ii)** (N) is 20 more than (M). **iii)** If (N) is divided by (M), then the result will be a prime number.
1.Only i) 2.Both ii) and iii) 3.Only ii) 4.All i), ii) and iii) 5.None is correct

9.Diya mixed 100 litres of water (which is free) with 250 liters of milk costing Rs. 10/litre and sold 4/7th of the mixture at Rs. 8/litre. Then he added (x + 50) liters of water in the remaining mixture and sold it for Rs. 6/litre. If he earns a profit of Rs. 900 in the whole transaction, then find the value of 'x'. A.150 B.100 C.75 D.180 E.200

10.Find the ratio of difference between compound interest when interest is compounded annually and simple interest on a sum of Rs. P for 2 years to difference between compound interest when interest is compounded annually and simple interest on the same sum Rs. P for 3 years, both at the rate of 10% per annum. A.10:21 B.12:35 C.10:31 D.8:29 E.Data is insufficient

11.A bag contains certain number of coins of Re. 1, Rs. 2 and Rs. 5. Ratio of the number of coins of Re. 1 to that of Rs. 5 in the bag is 3:5 and the ratio of the total value of Rs. 2 coins to that of Rs. 5 coins in the bag is 4:15. If the total number of coins in the bag is 102, then find the total value of Rs. 2 coins in the bag. A.Rs. 54 B.Rs. 50 C.Rs. 78 D.Rs. 66 E.Rs. 60

12.Sumit and Priya started a business with initial investments of Rs. 20000 and Rs. 10000, respectively with the condition that Priya will add Rs. 2000 at the end of every 3 months. If they had a total profit of Rs. 29700 at the end of the year, then the difference in the profits of Sumit and Priya is Rs. x. Which of the following is true about 'x'? I. 4/5th of 2/3rd of x is 3360 II. Value of 'x' is less than the value of the difference between the initial shares of Sumit and Priya. III. 'x' is an odd number. A.Only I B.Only I and II C.Only I and III D.Only II and III E.Only II

13.Train 'A' of length 200 m going at a speed of 54 km/h can cross another train 'B' and a passenger sitting inside train 'B' in 14 seconds and 8 seconds, respectively. Find the time taken by train 'B' to cross a cyclist who going in same direction as that of train 'B' with a speed of 18 km/h. (Note: The given trains are travelling in opposite direction with each other)
A.30 seconds B.40 seconds C.35 seconds D.50 seconds E.45 seconds

14.Ratio of the speed of boat 'A' in still water to the speed of the stream is 7:1. If boat 'A' can travel 360 km upstream in 15 hours, then find the time required for boat 'A' to travel 170 km downstream and 330 km upstream, together when the speed of the stream is increased by 50%.
A.30 hours B.25 hours C.20 hours D.45 hours E.10 hours

15.Air is being pumped inside a spherical balloon of radius 14 cm at a rate of 224 cm^3/s. If the balloon is supposed to burst when its radius becomes twice its initial radius, then find out the time for which air can be pumped inside the balloon before it bursts. (Take π = 3)
A.216 seconds B.243 seconds C.384 seconds D.244 seconds E.343 seconds

16.Fares for each seat in a 16-seater rickshaw, a 25-seater car and a 38-seater shuttle is Rs. 40, Rs. 25 and Rs. 15 respectively. If the average occupancy of each type of given vehicles in one way trip is 75%, 80% and 50%, respectively then find the approximate average income per vehicle for each trip. A.Rs. 462.33 B.Rs. 421.67 C.Rs. 401.33 D.Rs. 384.67 E.Rs. 487.33

17.Ratio of present ages of 'A', 'B' and 'D' is 7:5:6, respectively and 12 years hence from now, average age of 'B' and 'A' will be 42 years. If age of 'B', 5 years ago from now is 2/3rd of the age of 'C', 5 years hence from now, then find the sum of the present ages of 'A', 'B' and 'C'.
A.70 years B.68 years C.92 years D.85 years E.75 years

18.'A', 'B' and 'C' entered into a business making initial investment in the ratio of (1/3):(1/4):(1/5), respectively. If the ratio of the time for which they invested their sum is (1/5):(1/3):(1/2), respectively and total profit earned from the business was Rs. 45000, then find out the difference between the profit shares received by 'B' and 'C'.
A.Rs. 3000 B.Rs. 4500 C.Rs. 1500 D.Rs. 6000 E.None of these.

19.Anuj, Abhi and Antara started running together from the same point around a circular field having circumference 960 metres. If speeds of Anuj, Abhi and Antara are 12 metres/minute, 16 metres/minute and 10 metres/minute respectively, then find after how much time, they will meet again at the same point. A.6 hours B.8 hours C.9 hours D.5 hours E.None of these.

20.Ratio of the speeds of boat 'A' and 'B' in still water is 6:5, respectively. If they started moving towards each other when they were 1650 km apart and meet each other after 7.5 hours, then find the difference between the speeds of boats 'A' and 'B' in still water.
A.20 km/h B.25 km/h C.15 km/h D.10 km/h E.5 km/h

21.An accountant was tasked with the calculation of 10 three-digit numbers but he mistakenly reversed the unit digit of one of the numbers with hundredth digit and as a result the average increased by 29.7. Find the difference between the unit's place and hundred's place digits of that number. A.3 B.5 C.4 D.2 E.1

22.Ratio of the monthly incomes of Bimal and Pratap r:1, respectively and their savings are in the ratio 1:r, respectively. If Bimal spends Rs. 3700 per month out of his monthly income of Rs. 4000 and monthly expenditure of Pratap is Rs. 2600, then find the total monthly income of Bimal and Pratap. A.Rs. 7000 B.Rs. 5000 C.Rs. 4000 D.Rs. 6000 E.None of these.

23.According to Aneesha, her age is between 20 and 25 years whereas according to her mother, her age is between 22 and 26 years. Her father thinks that her age is between 21 and 25 years. Find the average of all the possible ages of Aneesha if all of them are correct in their assumptions.
A.22 years B.23.5 years C.21 years D.22.5 years E.None of these

24.A sum gets doubled in _____ years at compound interest of 'm'% p.a. compounded annually. In ____ years, the same amount at the same rate of compound interest, compounded annually will be quadrupled. The values given in which of the following options will fill the blanks in the same order in which it is given to make the statement true: I. 4, 8 II. 3, 6 III. 3, 9
A.All of I, II and III B.Only I and II C.Only I and III D.Only II and III E.Only II

25. 25 typists working 8 hours per day can complete a typing job in 12 days. ____ typists working _____ hours per day can complete (4/5)th part of the work in 10 days. The values given in which of the following options will fill the blanks in the same order in which it is given to make the statement true: I. 24, 8 II. 48, 4 III. 36, 6
A.All of I, II and III B.Only I and II C.Only I and III D.Only II and III E.Only II

1. Answer: C

Time taken by boat to travel 44Y km downstream = 8 hours

So, downstream speed of boat = 44Y/8 = 5.5Y

Ratio of speed of boat in still water and speed of stream = (3.5 + 1):1 = 9:2

So, upstream speed of boat = [5.5Y/11] * 7 = 3.5Y

Now,

Z/5.5Y – (Z – 29Y)/3.5Y = 4

14Z – 22Z + 638Y = 77Y x 4

8Z = 330Y

So, value of Z = 41.25Y

Required time (T) = (41.25Y – 15Y)/3.5Y = 7.5

So, required value = (7.5 + 4) = 11.5

Hence answer is option C

2. Answer: B

Ratio of milk and water in mixture initially = 3:1 = 3a: a

After removal of 4Y ml, and added Y ml water,

(a – 4Y *1/4) + Y / (4a – 4Y + Y) = 2/5

a/ (4a – 3Y) = 2/5

5a = 8a – 6Y

3a = 6Y

So, value of a = 2Y…… (1)

Now, amount of milk in mixture = 3 * 2Y – 3/4 * 4Y = 3Y ml

Amount of water in mixture = 2Y ml

Further 2Y ml mixture removed and then added 1.5Y ml milk, so total amount of mixture = (3Y + 2Y) – 2Y + 1.5Y = 4.5Y ml

Hence answer is option B

3. Answer: E

P + Q + R + 15 = 50 x 3

So, (P + Q + R) = 150 – 15 = 135

Value of Z = P + R

Value of Y = Q + S + U

Statement I.

S + T = 2 x 67.5 = 135

Statement II.

(P + Q + R + S + T) – U > 500

Statement III.

Q + U = 55 x 2 = 110

On combining (I + II + III)

P + Q + R = 135

S + T = 135

Now,

135 + 135 – U > 500

270 – U > 500

This is not possible, so statement II is invalid or gives such information which is not exist.

So, we can't use II

So, either answer can be from (I + III) or not.

On combining (I + III)

P + Q + R = 135

Q + U = 110

P + R – U = 25

S + T = 135

So, we cannot find the required difference.

Hence answer is option E

4. Answer: D

Let CP of article = Rs. a

Now,

(a + 3Z) – (a + 3Z) * (0.4Z)/100 – 180 = a – a * (0.4Z)/100

3Z – a * (0.4Z)/100 – 3Z * (0.4Z)/100 – 180 = - a * (0.4Z/100)

$Z - Z^2/250 - 60 = 0$

$Z^2 - 250Z + 15000 = 0$

$Z^2 - 150Z - 100Z + 15000 = 0$

(Z – 150) – 100(Z – 150) = 0

(Z – 100) (Z – 150) = 0

Z = 100, 150

Quantity I.

Required value = (25 * 100 – 1500) = 1000

Or (25 * 150 – 1500) = 2250

Quantity II.

Required value = 1000

So, Quantity I ≥ Quantity II

Hence answer is option D

5. Answer: D

Radius of cylinder = Z cm

Height of cylinder = Z + (49 x 22/7) / 22 = (Z + 7)

$\Pi \times Z^2 \times (Z + 7) = Y \times 11Z^3/42$

12Z + 84 = ZY

Y = 12 + 84/Z……. (1)

I. 13

13 = 12 + 84/Z

So, Z = 84 (possible)

II. 8

8 = 12 + 84/Z

Z = negative (not possible)

III. 16

16 = 12 + 84/Z

Z = 84/4 = 21 cm

IV. 17

17 = 12 + 84/Z

So, value of Z = 84/5 (not possible)

So, only I and III are possible

Hence answer is option D

6. Answer: B

Case I

The present age of A = 17

The present age of C = (17 + 10) = 27 (not a prime integer)

Case I does not follow.

Case II

The present age of A = 19

The present age of C = (19 + 10) = 29 (prime integer)

Case II follows.

Case III
The present age of A = 23
The present age of C = (23 + 10) = 33 (not a prime integer)
Case III does not follow.
Case IV
The present age of A = 29
The present age of C = (29 + 10) = 39 (not a prime integer)
Case IV does not follow.
Case V
The present age of A = 31
The present age of C = (31 + 10) = 41 (more than 40)
Case V does not follow.
Therefore, we take values from case II only.
The present age of A = 19 years
The present age of B = 29 years
Now, B is older than A but younger than C.
So, the present age of B should be more than that of A but less than that of C.
The only prime integer, which is more 19 but less 29 = 23
The present age of B = 23 years
X = (the present age of B) - (the present age of A) = (23 - 19) = 4
Y = (the present age of C) - (the present age of B) = (29 - 23) = 6
Both 4 and 6 are composite numbers.
4 is a perfect square of 2.
6 is not a multiple of 8.
Both i) and ii) are true.
Hence, the correct answer is option B.

7. Answer: A
The amount invested at C.I. = Rs. 400X
The interest received in the first year = 10% of 400X = Rs. 40X
The interest received in the second year = (10% of 400X) + (10% of 40X) = Rs. (40X + 4X) = Rs. 44X
The interest received in the third year = (10% of 400X) + (10% of 40X) + (10% of 44X) = (40X + 4X + 4.40X) = Rs. 48.40X
Now,
40X + 44X + 48.40X = 6620
132.40X = 6620
X = 50
The amount invested at S.I. = 400X = (400 * 50) = Rs. 20000
The rate of interest = (Y * X/2) = (Y * 50/2) = (Y * 25) = 25Y%
So,
25Y% of 20000 = 10000
5000Y = 10000
Y = 2
So, (X/Y) = 50/2 = 25.
Hence, the correct answer is option A.

8. Answer: B
The time taken by Q to complete the work alone = 20 days
The time taken by P and Q to complete the work = 4/60*100 = (20/3) days
The total work = 20 units
The efficiency of Q = 20/20 = 1
The efficiency of (P + Q) = 20/(20/3) = 3
The efficiency of P = (3 - 1) = 2
So, the time taken by P to complete the work alone = 20/2 = 10 days
M = 10
Also, the time taken by P and R to complete the work together = 5/2*3 = (15/2) days
So, the efficiency of (P + R) = 20/(15/2) = (8/3) days
The efficiency of R = (8/3) - 2 = (2/3)
So, the time taken by R to complete the work alone = 20/(2/3) = 30 days
N = 30
M is not thrice of N.
(N - 20) = 10
M = 10
N/M = 30/10 = 3 (prime number)
So, both ii) and iii) are correct.
Hence, the correct answer is option B.

9.Solution
Total volume of the mixture initially = 100 + 250 = 350 liters
Total cost of the mixture initially = 10 × 250 = Rs. 2500
Total cost of the mixture sold at Rs. 8/litre = 4/7 × 8 × 350 = Rs. 1600
Amount of mixture left = 350 × (1 – 4/7) = 150 liters
Amount of mixture sold at Rs. 6/litre = 150 + x + 50 = (x + 200) liters
So, (x + 200) × 6 + 1600 = 2500 + 900
Or, x + 200 = 1800/6
Or, x = 300 – 200 = 100
Hence, option b.

10.Solution
From I:
Difference between simple interest (SI) and compound interest (CI) on Rs. P at 10% per annum rate of interest in 2 years
$= P \times (10/100)^2$
Difference between simple interest (SI) and compound interest (CI) on Rs. P at 10% per annum rate of interest in 3 years
$= P \times (10/100)^3 + 3 \times P \times (10/100)^2$
$= P \times (10/100)^2 [10/100 + 3]$
$= P \times (10/100)^2 [1/10 + 3]$
$= P \times (10/100)^2 \times 31/10$
Required ratio = $\{P \times (10/100)^2\}:\{P \times (10/100)^2 \times 31/10\} = 10:31$
Hence, option c.

11.Solution
Number of Rs. 2 coins: Number of Rs. 5 coins = (4/2):(15/5) = 2:3
Number of Re. 1 coins: Number of Rs. 5 coins = 3:5
Combining the ratios,
Number of Re. 1 coins : Number of Rs. 2 coins : Number of Rs. 5 coins = 9:10:15
Let number of Re. 1 coins, Rs. 2 coins and Rs. 5 coins be 9x, 10x and 15x, respectively
So,
9x + 10x + 15x = 102
Or, 34x = 102
Or, x = 3
Total value of Rs. 2 coins = 3 × 10 × 2 = Rs. 60
Hence, option e.

12.Solution
Initial Rs. 10000 of Priya will be there for 12 months and the first Rs. 2000 will be in the business for (12 - 3) = 9 months, the second Rs. 2000 will be there for (9 - 3) = 6 months and the third Rs. 2000 will be there for (6 - 3) = 3 months.
Profit sharing ratio of Sumit to Priya
= {20000 × 12}:{10000 × 12 + 2000 × (9 + 6 + 3)}
= 240:156
= 20:13
Required difference between their profits = {(20 – 13)/(20 + 13)} × 29700 = Rs. 6300
So, x = 6300
From I:
(4/5) × (2/3) × 6300 = 3360
So, Statement I is true.
From II:
Value of the difference between the initial shares of Sumit and Priya
= 20000 – 10000 = Rs. 10000 > 6300
So, Statement II is also true.
From III:
6300 is an even number.
So, Statement III is false.
Hence, option b.

13.Solution
Let, speed of train 'B' = 'x' m/s and its length = 'y' m.
Relative speed between trains 'A' and 'B' = 54 × (5/18) + x = (15 + x) m/s
While crossing the passenger,
{200/(15 + x)} = 8
Or, 15 + x = 25
Or, x = 10
Again, while crossing each other,
{(200 + y)/(15 + 10)} = 14
Or, 200 + y = 350
Or, y = 150
Relative speed between the cyclist and train 'B' = 10 – {18 × (5/18)} = 5 m/s
Time taken to cross = 150/5 = 30 seconds.
Hence, option a.

14.Solution
Let, speed of boat 'A' in still water = '7x' km/h
Speed of stream = 'x' km/h
So,
{360/(7x – x)} = 15
Or, 6x = 360/15
Or, x = 4
When the speed of stream is increased by 50%,
Upstream speed of the boat = 7 × 4 – 1.5 × 4 = 22 km/h
Downstream speed of the boat = 7 × 4 + 1.5 × 4 = 34 km/h
Time required to travel 170 km downstream and 330 km upstream = (170/34) + (330/22) = 5 + 15 = 20 hours.
Hence, option c.

15.Solution
Initial volume of the balloon = $\{(4/3) \times \pi \times 14^3\}$ cm^3
Volume of the balloon when it bursts = $\{(4/3) \times \pi \times (14 \times 2)^3\}$ cm^3
Volume of air pumped in = $(4/3) \times \pi \times \{(28^3 – 14^3)\} = (4/3) \times \pi \times 19208 = 76832$ cm^3
Required time = (76832/224) = 343 seconds
Hence, option e.

16.Solution
Total income of the rickshaw from each trip = 16 × 0.75 × 40 = Rs. 480
Total income of the car from each trip = 25 × 0.8 × 25 = Rs. 500
Total income of the shuttle from each trip = 38 × 0.5 × 15 = Rs. 285
Average income per vehicle = {(480 + 500 + 285)/3 ~ Rs. 421.67
Hence, option b.

17.Solution
Let, present ages of 'A', 'B' and 'D' be '7x' years, '5x' years and '6x' years, respectively
Average age of 'A' and 'B', 12 years hence from now = {(7x + 12) + (5x + 12)}/2 = (6x + 12) years
Now, 6x + 12 = 42
Or, 6x = 30
Or, x = 5
So, present ages of 'A', 'B' and 'D' is 35 years, 25 years and 30 years, respectively.
Age of 'C', 5 years hence from now = (3/2) × {(25 – 5)} = 30 years
Sum of the present ages of 'A', 'B' and 'C' = 30 – 5 + 35 + 25 = 85 years
Hence, option d.

18.Solution
Ratio of investment of 'A', 'B' and 'C', respectively = (1/3):(1/4):(1/5) = 20:15:12
Ratio of time for which of 'A', 'B' and 'C' made their investment = (1/5):(1/3):(1/2) = 6:10:15
Ratio of their profit share = (20 × 6):(15 × 10):(12 × 15) = 120:150:180 = 4:5:6
Difference between the profit share received by 'B' and 'C' = {(6 – 5)/(4 + 5 + 6)} × 45000 = 1/15 × 45000 = Rs. 3000
Hence, option a.

19.Solution
Time taken by Anuj to complete 1 round = 960/12 = 80 minutes
Time taken by Abhi to complete 1 round = 960/16 = 60 minutes
Time taken by Antara to complete 1 round = 960/10 = 96 minutes
Time to meet = LCM of (80, 60 and 96) = 480 minutes = 8 hours
Hence, option b.

20.Solution
Let,
Speed of boat 'A' = 6x km/h
Speed of boat 'B' = 5x km/h
Relative speed between boat 'A' w.r.t. boat 'B' = 6x + 5x = '11x' km/h
So, 1650/11x = 7.5
Or, x = 1650/(11 × 7.5)
Or, x = 20
Required difference = (6x – 5x) = x = 20 km/h
Hence, option a.

21.Solution
Let the original number be (100a + 10b + c)
The accountant took the number as (100c + 10b + a)
Desired difference = (100c + 10b + a) – (100a + 10b + c) = 99c – 99a = 99(c – a)
Since, average of the numbers increased by 29.7

So, total increase = 29.7 × 10 = 297
According to the question,
99(c – a) = 297
Or, (c – a) = 3
So, the difference between the unit's place and hundred's place digits of the number = 3
Hence, option a.

22.Solution

Monthly income of Pratap = Rs. (4000/r)
Monthly savings of Bimal = Rs. (4000 – 3700) = Rs. 300
Monthly savings of Pratap = Rs. 300r
According to the question,
4000/r – 300r = 2600
Or, 40/r – 3r = 26
Or, $3r^2 + 26r – 40 = 0$
Or, $3r^2 + 30r – 4r – 40 = 0$
Or, 3r (r + 10) – 4 (r + 10) = 0
Or, (r + 10)(3r – 4) = 0
Or, r = 4/3 {As, r > 0}
Total income of Bimal and Pratap = 4000 + (4000 × 3/4) = Rs. 7000
Hence, option a.

23.Solution

According to Aneesha her age can be 21 years, 22 years, 23 years or 24 years.
According to her mother, age of Aneesha can be 23 years, 24 years or 25 years.,
According to her father, age of Aneesha can be 22 years, 23 years or 24 years.
Since, all of them are correct in their assumptions. So, age of Aneesha can be either 23 years or 24 years.
Required average = (23 + 24)/2 = 23.5 years
Hence, option b.

24. Solution

Let the original sum be Rs. 'P'
From I:
$P (1 + m/100)^4 = 2P$
Or, $(1 + m/100)^4 = 2$ ----(i)
So, $P(1 + m/100)^8 = P\{(1 + m/100)^4\}^2 = P \times 2^2 = 4P$
So, 'I' can be true.
From II:
$P (1 + m/100)^3 = 2P$
Or, $(1 + m/100)^3 = 2$ ----(i)
So, $P(1 + m/100)^6 = P\{(1 + m/100)^3\}^2 = P \times 2^2 = 4P$
So, 'II' can be true.
From III:
$P (1 + m/100)^3 = 2P$
Or, $(1 + m/100)^3 = 2$ ----(i)
So, $P(1 + m/100)^9 = P\{(1 + m/100)^3\}^3 = P \times 2^3 = 8P$
So, 'III' cannot be true.
Hence, option b.

25.Solution

Total work to be done = (4/5) × 25 × 12 × 8 = 1920 units.
For I:
Number of typists = 24
Desired number of hours = 1920/(10 × 24) = 8 hours
So, 'I' can be true.
From II:
Number of typists = 48
Desired number of hours = 1920/(10 × 48) = 4 hours
So, 'II' can be true.
From III:
Number of typists = 36
Desired number of hours = 1920/(36 × 10) = 5.33 hours
So, 'III' cannot be true.
Hence, option b.