

IBM Aptitude Questions and Answers with Explanation



1. **Solve** $1781.90 \div 54.20 + 456.13 - 2345.80 * 0.98 = ? * 2$

- A. 988
- B. -876
- C. -928
- D. -675
- E. None of these

Answer – C. -928

Explanation:

Let's take round figure value, then the simplification is

$$1782 \div 54 + 456 - 2345 * 1$$

$$= 33 + 456 - 2345$$

$$= -1856 / 2 = -928$$

2. **Solve** 24.95% of $797.07 \div 19.05 = 54.88 - ?$

- A. 36
- B. 47
- C. 63
- D. 45
- E. None of these

Answer – D. 45

Explanation:

$$25\% \text{ of } 800 \div 20 = 25 * 800 / 100 * 20$$

$$= 10$$

$$55 - 45 = 10$$

Therefore, forgetting value as a 10 the number should be ' 45 '

3. The average expenditure of Sharma for January to June is Rs. 4200 and he spent Rs. 1200 in January and Rs. 1500 in July. The average expenditure for the months of February to July is:

- A. 4250
- B. 4500
- C. 3500
- D. 2750
- E. 3250

Answer – A. 4250

Explanation:

Given

$$\text{The expenditure between January to June} = 4200 * 6 = 25200$$

$$\text{The expenditure between February to June} = 25200 - 1200 = 24000$$

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Therefore, The expenditure between February to July = $24000 + 1500 = 25500/6 = 4250$

4. A jar containing 60 litres of the mixture of milk and water. The respective ratio of milk and water in the ratio 7:5. From the jar 12litres of the mixture was taken out and 6 liters of pure milk was added. What is the respective ratio of milk and water after the final operation?

- A. 12:17
- B. 13:19
- C. 9:7
- D. 17:10
- E. None of these

Answer – D. 17:10

Explanation:

$$7x+5x = 60$$

Milk = 35 litres, water = 25 litres

10 litres of mixture taken out

$$\text{Milk} = 35-12(7/12) = 35-7 = 28$$

$$\text{Water} = 25-12(5/12) = 25-5 = 20$$

$$28+6 : 20 = 34:20 = 17:10$$

Therefore, the ratio of Milk and Water after the final operation is 17:10

5. Two varieties of juice are mixed in the ratio of 4:5. The price of 1st variety juice is Rs.14 per liter while the second variety is Rs.17 per liter. Find the average price of the mixture?

- A. Rs.15.03
- B. Rs.15.67
- C. Rs.16.78
- D. Rs.17.43
- E. None of these

Answer – B. Rs.15.67

Explanation:

Let we assume x = avg price

$$x-14/17-x = 5/4$$

$$4x-56 = 85-5x$$

$$5x+4x = 85+56 = 141$$

$$9x = 141$$

$$x = 141/9 = 15.67$$

Hence, The average price of the mixture is Rs.15.67

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6. Venkat lends Rs 30,000 of two of his friends. He gives Rs 15,000 to the first at 6% p.a. simple interest. He wants to make a profit of 10% on the whole. The simple interest rate at which he should lend the remaining sum of money to the second friend is

- A. 16%
- B. 12%
- C. 14%
- D. 8%
- E. None of the Above

Answer - C. 14%

Explanation:

The Simple Interest on Rs 15000

$$=(15000 \times 6 \times 1) / 100 = \text{Rs. } 900$$

Profit to made on Rs 30000

$$= 30000 \times 10 / 100 = \text{Rs } 3000$$

$$\text{S.I. on Rs. } 15000 = 3000 - 900 = \text{Rs. } 2100$$

$$\text{Rate} = (\text{S.I.} \times 100) / (\text{P} \times \text{T}) = (2100 \times 100) / 15000$$

$$= 14\% \text{ per annum}$$

Therefore, the simple interest rate at which he should lend the remaining sum of money to the second friend is 14%.

7. Mahesh lends 40% of his money at 15% per annum, 50% of the rest at 10% per annum and the rest at 18% per annum rate of interest. What would be the annual rate of interest, if the interest is calculated on the whole sum?

- A. 14.4%
- B. 16.5%
- C. 18.5%
- D. 19.5%
- E. None of the Above

Answer - A. 14.4%

Explanation:

$$x - (40/100) \times x = 60x/100$$

$$40/100 \text{ at } 15\% \text{ p.a} = 40/100 \times 15/100 = 60x/1000$$

$$50/100 \times 60x/100 = 30x/100 \text{ at } 10\% \text{ p.a} = 30x/100 \times 10/100 = 30x/1000$$

$$\text{Balance amount} = x - 40x/100 - 30x/100 = 30x/100 \text{ at } 18\% \text{ p.a} = 18/100 \times 30x/100 = 54x/1000$$

$$R = [(144x/1000)/x] \times 100 = 14.4\%$$

Therefore, the annual rate of interest is 14.4%.

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8. Find the 4-digit smallest number which when divided by 12, 15, 25, 30 leaves no remainder?
- A. 1800
 - B. 1020
 - C. 1120
 - D. 1200
 - E. None of these

Answer – D. 1200

Explanation:

LCM of 12, 15, 25 and 30 is 300

the least number of 4-digit divided by 300 is 1200

9. A, B, and C can alone complete a work in 10, 12 and 15 days respectively. All started the work but B left the work 3 days before completion. How much work was then done by A and B together in the total work?
- A. $\frac{2}{3}$
 - B. $\frac{3}{4}$
 - C. $\frac{1}{3}$
 - D. $\frac{3}{5}$
 - E. $\frac{2}{5}$

Answer - A. $\frac{2}{3}$

Explanation:

Let us assume that work completed in x days

According to given data A and C worked for all x days and B for (x-3) days. So

$$\left(\frac{1}{10} + \frac{1}{15}\right)x + \left(\frac{1}{12}\right)(x-3) = 1$$

Solve, x = 5 days

In 5 days, A did $\frac{5}{10} = \frac{1}{2}$ of work

In (5-3) = 2 days, B did $\frac{2}{12} = \frac{1}{6}$ of work

So total by A and B = $\left(\frac{1}{2} + \frac{1}{6}\right) = \frac{2}{3}$

Therefore, the total work done by A and B together is $\frac{2}{3}$.

10. A sum of money is to be distributed among A, B, C, D in the proportion of 5: 2: 4 : 3. If C gets Rs. 1000 more than D, what is B's share?
- A. Rs. 500
 - B. Rs. 1500
 - C. Rs. 2000
 - D. None of these

Answer - C. Rs. 2000

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Explanation:

Let us assume that the shares of A, B, C and D be Rs. 5x, Rs. 2x, Rs. 4x and Rs. 3x respectively.

Then, $4x - 3x = 1000$

$x = 1000$.

B's share = Rs. 2x = Rs. (2 x 1000) = Rs. 2000.

Therefore, the share of the B is Rs. 2000.

11. Three pipes A, B and C can fill a cistern in 6 hours. After working at it together for 2 hours, C is closed and A and B can fill the remaining part in 6 hours. The number of hours taken by C alone to fill the cistern is

- A. 12 hours
- B. 10 hours
- C. 18 hours
- D. 8 hours
- E. None of these

Answer – C. 18 hours

Explanation:

Given that

A+B+C in 1h = $1/6$

A+B+C in 2h = $2/6 = 1/3$

Remaining = $1 - 1/3 = 2/3$

A+B in 6 hrs = $2/3$

A+B in 1 hr = $2/18$

C alone to fill the cistern = $1/6 - 2/18 = 3-2/18 = 1/18$

Therefore, the time taken by C alone to fill the cistern was 18 hours.

12. Two pipes A and B can fill a tank in 6 hours and 5 hours respectively. If they are turned on alternatively for 1 hour each, find the time in which the tank is full.

- A. 4 hrs 30 min
- B. 5 hrs
- C. 6 hrs 25 min
- D. 5 hrs 30 min
- E. None of these

Answer – D. 5 hrs 30 min

Explanation:

We assume that pipe A is opened first

Total = 30, A = $30/6 = 1/5$, B = $30/5 = 1/6$

In 2 hrs = $5+6 = 11$

In 4 hrs = 22

Remaining = $30 - 22 = 8$

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1hr Pipe A = $8-5= 3$, Remaining B = $3*1/6 = 30$ min
Therefore, the time taken in order to fill the tank was 5hrs 30min

13. Two pipes P and Q can fill a tank in 20m and 30m respectively. If both the pipes are opened simultaneously, after how much time should Q be closed so that the tank is full in 16 minutes?

- A. 12 min
- B. 6 min
- C. 10 min
- D. 7 min
- E. None of these

Answer – B. 6 min

Explanation:

$$X(1/20+1/30) +(16-x)1/20 = 1$$

$$5x/60+16-x/20 =1$$

$$5x+48-3x/60 =1$$

$$2x+48 = 60$$

$$2x=12$$

$$X=12/2 = 6$$

Hence it is proved.

14. Veera Reddy sold 10 sarees for a total profit of Rs. 460 and 12 sarees for a total profit of Rs. 144. At what profit per saree should he sell the remaining 20 sarees so that he gets an average profit of Rs. 18 per sarees?

- A. Rs 7.10
- B. Rs 7.60
- C. Rs 7.99
- D. Rs 8

Answer – B. Rs 7.60

Explanation:

According to the given data

$$\text{Total profit required} = \text{Rs.}(42 \times 18) = \text{Rs.}756$$

$$\text{Profit on 22 sarees} = \text{Rs.} (460 + 144) = \text{Rs.} 604$$

$$\text{Profit on 20 sarees} = \text{Rs.} (756 - 604) = \text{Rs.} 152$$

$$\text{Average profit on these sarees} = \text{Rs.}(152/20) = \text{Rs.} 7.60.$$

Hence it is proved.

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15. A retailer buys 40 pens at the market price of 36 pens from a wholesaler. If he sells these pens giving a discount of 1%, what is the profit percent?

- A. 22%
- B. 25%
- C. 26%
- D. 10%

Answer – D. 10%

Explanation:

Let us assume that the market price of each pen is Rs. 1.

Then, C.P. of 40 pens = Rs. 36.

S.P. of 40 pens = 99% of Rs. 40 = Rs. 39.60.

Therefore, the percentage of profit = $[(39.60/36) - 1] \times 100\% = 10\%$.

Hence it is proved.

16. The numerator of a rational number is 4 less than the denominator. If the numerator is increased by 15 and denominator is decreased by 4, we get 6. Find a rational number?

- A. 1/5
- B. 2/7
- C. 3/7
- D. 5/9
- E. None of these

Answer – C. 3/7

Explanation:

let the fraction is $(p-4)/p$

now, $(p - 4 + 15)/(p-4) = 6$

we get $p = 7$

Therefore, fraction = $3/7$

17. Two different numbers, when divided by the same divisor, leaves remainder 7 and 9 respectively. When their sum is divided by the same divisor remainder was 4. Find the divisor?

- A. 13
- B. 14
- C. 11
- D. 12
- E. None of these

Answer – D. 12

Explanation:

Let first number $N_1 = D \cdot a + 7$

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and second number $N_2 = D \cdot b + 9$

$N_1 + N_2 = (a+b) \cdot D + 16$

Remainder is 4

Therefore, D will be 12

18. When a number is added to 20 percent of the second number, we get 150 percent of the second number. Find the ratio between the first and second number?

A. 13:9

B. 12:10

C. 13:10

D. 17:10

E. None of these

Answer – C. 13:10

Explanation:

$a + (20/100) \cdot b = (150/100) \cdot b$

$a:b = 13:10$

Therefore, the ratio between the first and second number is 13:10.