# HP Aptitude Questions and Answers with Explanation

1. **Venkat borrows a sum of Rs.1500 at the beginning of a year. After four months Rs.2100 more is borrowed at a rate of interest double the previous one. At the end of one year, the sum of interest on both the loans is Rs.416. What is the first rate of interest per annum?**

A. 7.3%
B. 6.7%
C. 5.5%
D. 4.5%

**Answer -** A. 7.3%
**Explanation:**
P = 1500
A rate of Interest = x
SI = 1500x/100 = 15x
P = 2100
Rate of Interest = 2x
SI = 4200x/100 = 42x
57x = 416
x = 7.3%
Therefore, the first rate of interest per annum is 7.3%

2. **An equal amount of sum is invested in two schemes for four years each, both offering simple interest. When invested in scheme A at 8% per annum the sum amounts to Rs.5280. In scheme B, invested at 12% per annum it amounts to Rs.5920. What is the total sum invested?**

A. 5000
B. 7000
C. 8000
D. 9000

**Answer -** C. 8000
**Explanation:**
Sum = x
x + [(x*4*8)/100] = 5280
33x = (5280*25) = 4000
Then, Total sum = 2 * 4000 = 8000

3. **Simple Interest on a certain sum at a certain annual rate of interest is 16% of the sum. If the numbers representing rate percent and time in years be equal, then the rate of interest is?**

A. 2%
B. 4%
C. 6%
D. 8%

**Answer -** B. 4%
**Explanation:**
Simple Interest (SI) = 16% of P
R = T = x
SI = [P * N * R]/100
4P/25 = [P * x ^ 2]/100
x = 4%
Therefore, the rate of interest is 4%.

4. **Radha mixes 70 kg of sugar worth Rs.28.50 per kg with 100 kg of sugar worth Rs.30.50 per kg. At what rate shall he sell the mixture to gain 10%?**

A. Rs.29.75
B. Rs.30.46
C. Rs.31.50
D. Rs.32.64

**Answer –** D. Rs.32.64
**Explanation:**
70/100 = 100 x – 30.50(110)/28.50(110)-100x
0.7 = 100x-3355/3135-100x
2194.5 – 70 x = 100 x-3355
170 x = 5549.5
X = 32.64

5. **A vessel contains 20 liters of a mixture of milk and water in the ratio 3: 2. 10 liters of the mixture is removed and replaced with an equal quantity of pure milk. If the process is repeated once more, find the ratio of milk and water in the final mixture obtained?**

A. 9:1
B. 4:7
C. 7:1
D. 2:5

**Answer -** A. 9:1
**Explanation:**
Milk = 3/5 * 20 = 12 liters
water = 8 liters
If 10 liters of the mixture is removed, amount of milk removed = 6 liters and amount of water removed = 4 liters.
Remaining milk = 12 - 6 = 6 liters
Remaining water = 8 - 4 = 4 liters
10 liters of pure milk are added, therefore total milk = (6 + 10) = 16 liters.
The ratio of milk and water in the new mixture = 16:4 = 4:1
If the process is repeated one more time and 10 liters of the mixture are removed, then the amount of milk removed = 4/5 * 10 = 8 liters.
Amount of water removed = 2 liters.
Remaining milk = (16 - 8) = 8 liters.
Remaining water = (4 -2) = 2 liters.
The required ratio of milk and water in the final mixture obtained = (8 + 10):2 = 18:2 = 9:1.

6. **In a 70 liters mixture of milk and water, % of water is 30%. The milkman gave 20 liters of this mixture to a customer and then added 20 liters of water to the remaining mixture. What is the % of milk in the final mixture?**

A. 48%
B. 40%
C. 50%
D. 53%

**Answer –** C. 50%
**Explanation:**
20 litre given remaining = 70-20 = 50 litre
Quantity of milk = 50*70/100 = 35 litre
Quantity of water = 50-35 = 15 litre
20 litres of water added = 50+20 = 70
% of milk = 35*100/70 =50%

7. **Two pipes P and Q can fill a tank in 10 minutes and 20 minutes respectively. Both the pipes are opened together but after 4 minutes, Pipe P is turned off. What is the total time required to fill the tank?**

A. 8 m
B. 10 m
C. 12 m
D. 16m

**Answer –** C. 12 m
**Explanation:**
Pipes P + Q in 4 minute = 4 ( 1 / 10 + 1 / 20 ) = 4(2+1/20) = 12/20 = 3/5
Part remaning = 1 – ( 3 / 5 ) = 2 / 5
1 / 20 part is filled by B in 1 minute
2 / 5 part will be filled in = ( 20)* ( 2 / 5 ) = 8 minutes
Total = 8+4 = 12 m

8. **Two pipes M and N can fill a tank in 30 and 45 minutes respectively. If both the pipes were open for few minutes after N was closed and the tank was full in 25 minutes, find the time for pipe N was open.**

A. 5 min
B. 7.5 min
C. 8.16 min
D. 10.2 min

**Answer –** B. 7.5min
**Explanation:**
Let us assume the required time is 'x'
Then, according to the given information
x(1/30+1/45) + 1/30(25-x) = 1
x/45+25/30 =1
x/45 = 5/30 =1/6
x=45/6
x=7.5 min

9. **P, Q, and R divide Rs 4200 among themselves in the ratio 7: 8: 6. If Rs 200 is added to each of their shares, what is the new ratio in which they will receive the money?**

A. 8 : 9 : 7
B. 9 : 8 : 7
C. 8 : 9 : 8
D. 9 : 10 : 8

**Answer -** A. 8 : 9 : 7
**Explanation:**
P gets = [7/(7+8+6)] * 4200 = 1400
Q gets = [8/(7+8+6)] * 4200 = 1600
R gets = [6/(7+8+6)] * 4200 = 1200
Rs. 200 added to each share, so new ratio
is = 1400+200 : 1600+200 : 1200+200

= 1600 : 1800 : 1400
= 8: 9: 7

10. **The incomes of M and N are in the ratio 1 : 2 and their expenditures are in the ratio 2 : 5. If M saves Rs 20,000 and N saves Rs 35,000, what is the total income of M and N?**

A. Rs 30,000
B. Rs 90,000
C. Rs 90,000
D. Rs 60,000

**Answer -** C. Rs 90,000
**Explanation:**
Income of M = x, of N = 2x
Expenditure of M = 2y, of N = 5y
Savings is (income – expenditure). So
x – 2y = 20,000
2x – 5y = 35,000
Solve the equations, x = 30,000
So total = x+2x = 3x = 3*30,000 = 90,000

11. **Rs 5750 is divided among P, Q, and R such that if their share be reduced by Rs 10, Rs 15 and Rs 25 respectively, the reminder amounts with them shall be in the ratio 4 : 6 : 9. What was R's share then?**

A. Rs 2700
B. Rs 2725
C. Rs 2750
D. Rs 2625

**Answer -** B. Rs 2725
**Explanation:**
When the shares reduce, the total amount will also reduce which is to be divided among them. So after reducing shares by Rs 10, Rs 15 and Rs 25 respectively, the total amount is 5750 – (10+15+25) = 5700
So R's share shall be [9/(4+6+9)] * 5700 = 2700
Actually R would have received = 2700 + 25 = 2725

12. **While calculating the weight of a group of men, the weight of 63 kg of one of the member was mistakenly written as 83 kg. Due to this the average of the weights increased by half kg. What is the number of men in the group?**

A. 40
B. 60
C. 25
D. 20

**Answer -** A. 40
**Explanation:**
Increase in marks lead to an increase in average by 1/2
So, (83-63) = x/2
x = 40