

### Statement Test 5

1. A shopkeeper sold 8 glass at Rs. 24 each and 7 plates at Rs. 54 each. If overall, he gains Rs. 30 and profit percent earned on each plate is 12.5%, then what is the cost price of each glass?

(A) Rs. 22.1 (B) Rs. 25.5 (C) Rs. 21.7 (D) Rs. 27.8 (E) None of these

2. Yogesh started a business by investing Rs. 3650. He left the business at the end of 10 months while Sohil joined the business at the same time by investing Rs. 4250. At the end of the year, Yogesh received Rs. 1679 as his share out of the total profit. What was the share of profit received by Sohil?

(A) Rs. 245 (B) Rs. 158 (C) Rs. 391 (D) Rs. 417 (E) None of these

3. A road of width of 7 cm is running around a circular park. Cost of gardening the park (without road) is Rs. 2079 at the rate of Rs. 1.5/cm<sup>2</sup>, then what will be the difference between the inner and outer perimeter of the road?

(A) 38 cm (B) 59 cm (C) 25 cm (D) 44 cm (E) None of these

4. Samarth's present age is 6 times of Nitesh's age 3 years ago and Nitesh is 3 years younger than Deepak. The sum of the present ages of Deepak and Samarth is 48 years, then what is the sum of the present ages of Deepak and Nitesh?

(A) 34 years (B) 23 years (C) 21 years (D) 33 years (E) None of these

5. Naman alone can complete the whole work in 15 days and Sagar alone can completed the whole work in 10 days. If the ratio of efficiency of Milan and Naman is 3 : 4 and the ratio of efficiency of Manisha and Sagar is 5 : 6, then in how many days Manish and Milan together can complete the whole work?

(A) 2.8 days (B) 6.1 days (C) 7.5 days (D) 4.9 days (E) None of these

6. The sum of present age of 4 friends A, B, C and D is 166 years. Average age of A, B and C is 42 years and average age of D and A is 38 years, then find the age A after 3 years.

(A) 39 years (B) 18 years (C) 22 years (D) 43 years (E) None of these

7. Rahul, Renu and Rajesh started a business with the investment of Rs.9000, Rs.12000 and Rs.6000 respectively. After 9 months, Rahul added Rs.6000 and Renu added Rs.\_\_\_\_\_ to her initial investment. At the end of the year, the profit share of Rajesh is Rs.1600 and the difference between the profit share of Renu and Rahul is Rs.\_\_\_\_\_.

A)6000, Rs.800 B)4000, Rs.500 C)3000, Rs.600 D)12000, 1200

A.All A, B, C and D B.Only A C.Only A, B and C D.Only A and C E.Only A, C and D

8. P, Q and R started a business by investing an amount of Rs. 45000, Rs. 60000 and Rs. 70000 respectively. After 3 months, P withdraws 40 % of his initial investment and R invested 20 % more of his initial investment. And after another 3 months, Q withdraws 30 % of his initial investment. Find the total profit at the end of the year, if the share of Q is Rs. 61200?

A.Rs. 167000 B.Rs. 184200 C.Rs. 195600 D.Rs. 175600 E.None of these

9. A, B and C entered into a business plan with their investments in the ratio 4: 6: 9 respectively.

After 2 months, A withdraws his whole amount, B withdraws 1/4<sup>th</sup> of his amount and C doubles his amount. After another 4 months, C withdraws 4/9<sup>th</sup> of his amount, B doubles from his initial investment and A re-enters into business with an amount equal to his initial amount. Find the ratio of profit of A, B, and C.

A.15:51:65 B.16:49:75 C.16:51:65 D.16:51:75 E.18:58:75

10. Ratio of the ages of Arun and his father is 1:2 and the ratio of the ages of Arun's father and mother at the time of his birth is 6:5. If Arun's sister is 4 years younger than Arun and the ratio of Arun's mother and his sister's age after 12 years is 7:4. What is the present age of Arun's father?

A.40 years B.44 years C.48 years D.Cannot be determined E.None

11. Ratio of the present ages of A and B is 5:4 and the ratio of the ages of C and D is 6:7. If the average of difference between the ages of A and B and the difference between the ages of C and D is 8.5 years and A is 14 years younger than C, then what is the present age of B?

A.40 years B.32 years C.48 years D.28 years E.None

12. Ratio of the cost price of mobile to laptop is 1: 3 and then Ram purchased x number of laptops and 6 mobiles, while Rahul purchased 6 laptops and x mobiles. If the total amount paid by Rahul is 40% more than that of the total amount paid by Ram, then find the value of x?

A.4 B.2 C.3 D.8 E.6

13. If the ratio of the number of balls in box A and box B is 4:5 and the ratio of the balls in box C to D is 3: 4. If the number of balls in box D is 4 less than the number of balls in B and the average number of balls in all the boxes together is 87, then what is the number of balls in box A?

A.100 B.60 C.40 D.80 E.None

14. If the number of female employees in company A is 50% more than the number of male employees in the same company and the number of female employees in company B is twice the number of male employees in the same company. If the total number of employees in A is 120 more than the number of employees in B, then what is the ratio of the number of male to female employees in A and B together?

A.3:2 B.2:3 C.4:5 D.Cannot be determined E.None

15. The ratio of the number of male to female in Chennai and Bangalore is 3:2 and 7:3 respectively. If 20% of the male from Chennai are undergraduate and 60% female from Bangalore are postgraduate. If the postgraduate males from Chennai and postgraduate female from Bangalore is 3300 and the total number of people in Chennai and Bangalore is equal, then what is the total male population in Chennai and Female population in Bangalore?

A.4500 B.4200 C.4000 D.4800 E.None

16. There are three boxes A, B and C and each of them contains two different color balls red and yellow. If the ratio of the total number of balls from A, B and C is 2: 3: 1 and then one – fifth of the balls from C is red, two-fifth of the balls from B is red and half of the balls from A is red, then the number of yellow balls from all the boxes together is what percent of the total number of balls from all the boxes together?

A.40% B.50% C.60% D.Cannot be determined E.None of these

17. Ratio of the number of boys to girls in class A is 4: 5 and the ratio of the boys to girls in class B is 4: 3. If 10 girls left from class A and 10 boys left from class B, then the number of students from class A and B is equal. What is the ratio of the total number of students from class A to B?

A.3: 4 B.5: 3 C.5: 8 D.4: 7 E.None of these

18. Ratio of the monthly income of A to B is 4:3 and the ratio of the monthly income of B to C is 2:1. If the difference between the C's monthly income and his savings is Rs.12000 and the saving's of C is half of his expenditure, then what is the average of the income of A, B and C?

A.Rs.34000 B.Rs.31000 C.Rs.27000 D.Rs.29000 E.None of these

19. Atul divides some money among his three children A, B and C. The ratio of amount received by A and C together to the amount received by B is 5:2. C received 150% of the amount received by A. If the amount received by C is Rs. 1500. Find the sum of amount received by A and B together.

A.Rs. 1500 B.Rs. 1000 C.Rs. 2000 D.Rs. 2500 E.Rs. 3000

20. A milkman has 40 liters mixture of milk and water in the ratio of 5:3. If he sold 16 liters of mixture and then 12 liters of milk added to the mixture. Again he sold 20 liters of mixture and then he added 8 liters of milk to the mixture. The final quantity of the water is what percent of the final quantity of the milk?

A.10% B.15% C.20% D.25% E.None of these

21. Vessel A contains the mixture of Petrol and Diesel in the ratio of 3: 2, vessel B contains the mixture of Petrol and Kerosene in the ratio of 1: 2 and Vessel C contains mixture of Kerosene and Diesel in the ratio of 2: 3. If all the vessels are mixed in the ratio of 4: 3: 2, then find the respective ratio of Petrol, Diesel and Kerosene in the final mixture?

A.46: 58: 31 B.56: 63: 32 C.67: 72: 41 D.59: 68: 35 E.None of these

22. A Jar contains 80 liters mixture of milk and water and the quantity of the water is 30% of the total mixture. If X liters of mixture is taken out and replaced by water and then again the same quantity of the mixture is taken out and replaced by water. If final quantity of the milk is 31.5 liters, then find the value of x?

A.20 liters B.28 liters C.30 liters D.40 liters E.None of these

23. How many kilograms of rice of Rs 6.4/kg should be mixed with 10 kg of rice of Rs 4.8/kg, in such that by selling the mixture at 20 % profit, which is Rs. 1.12 more than the average price per kg of both the varieties of rice

A.12 kg B.15 kg C.10 kg D.11 kg E.None of these

24. The vessel A contains the ratio of the milk and water in the ratio of 8:5 and the vessel B contains 60 liters mixture of milk and water in the ratio of 7:5. If vessel A and B mixture mixed, then the ratio of the milk and water becomes 3:2, what is the initial quantity of the milk in vessel A?

A.32 liters B.24 liters C.40 liters D.48 liters E.None of these

25. A vessel has certain quantity of milk and then 8 liters of milk is taken out and replaced with water. Now 10 liters of mixture taken out and replace with water and again 12 liters of the mixture is taken out and replaced with water. If the initial quantity of the milk in the vessel is 80 liters, then what is the final quantity of the milk?

A.53.55 liters B.54.78 liters C.55.89 liters D.56.19 liters E.None

**1. Ans. (B)**

CP of each Glass = x Rs.

$$8 \times x + 7 \times 54/1.125 + 30 = 8 \times 24 + 7 \times 54$$

$$8x + 336 + 30 = 192 + 378$$

$$8x = 570 - 366 = 204$$

$$x = \text{Rs. } 25.5$$

**2. Ans. (C)**

Profit Ratio, Yogesh : Sohil

$$= (3650 \times 10) : (4250 \times 2) = 73 : 17$$

Profit of Sohil =  $1679 \times 17/73$

$$= \text{Rs. } 391$$

**3. Ans. (D)**

Inner radius = r cm,

Outer radius = (r + 7) cm

Difference between outer & inner perimeter

$$= 2 \times 22/7 \times (r + 7) - 2 \times 22/7 \times r$$

$$= 44/7 \times 7 = 44 \text{ cm}$$

**4. Ans. (C)**

At present, Age of Nitesh = x years

Age of Samarth = 6(x - 3) years

Age of Deepak = (x + 3) years

$$6(x - 3) + (x + 3) = 48$$

$$6x - 18 + x + 3 = 48$$

$$7x = 48 + 15 = 63$$

$$x = 9$$

Sum of present age of Deepak & Nitesh = x + 3 + x = 2 × 9 + 3

$$= 18 + 3 = 21 \text{ years}$$

**5. Ans. (C)**

Naman □ 15 2

} 30 {

Sagar □ 10 3

Efficiency of Milan =  $2 \times 3/4 = 1.5$

Efficiency of Manisha =  $3 \times 5/6 = 2.5$

Manisha & Milan complete the work in =  $30/(2.5 + 1.5) = 30/4 = 7.5 \text{ days}$

**6. Ans. (A)**

At present,

Age of A =  $3 \times 42 + 2 \times 38 - 166$

$$= 126 + 76 - 166 = 202 - 166 = 36 \text{ years}$$

After 3 years, Age of A

$$= 36 + 3 = 39 \text{ years}$$

**7) Answer: E**

Profit ratio of Rahul, Renu and Rajesh

$$= (9000 \times 9 + 15000 \times 3) : (12000 \times 9 + (12000 + x) \times 3) : (6000 \times 12)$$

$$= 126000 : (144000 + 3x) : 72000$$

**From option (A)**

$$126000 : (144000 + 18000) : 72000 = 126 : 162 : 72$$

$$= 7 : 9 : 4$$

Difference profit share of Renu and Rahul =  $2/4 \times 1600 = 800$

This satisfies the given condition.

**From option (B)**

$$126000 : (144000 + 12000) : 72000 = 126 : 156 : 72$$

$$= 21 : 26 : 12$$

Difference profit share of Renu and Rahul =  $5/12 \times 1600 = \text{Rs. } 666$

This doesn't satisfy the given condition.

**From option (C)**

$$126000 : (144000 + 9000) : 72000 = 126 : 153 : 72$$

$$= 14 : 17 : 8$$

Difference profit share of Renu and Rahul =  $3/8 \times 1600 = \text{Rs. } 600$

This satisfies the given condition.

**From option (D)**

$$126000 : (144000 + 36000) : 72000 = 126 : 180 : 72$$

$$= 14 : 20 : 8$$

$$= 7 : 10 : 4$$

Difference profit share of Renu and Rahul =  $3/4 \times 1600 = 1200$

This satisfies the given condition.

**8) Answer: C**

The ratio of share of P, Q and R

$$= > [45000 \times 3 + 45000 \times (60/100) \times 9] : [60000 \times 6 + 60000 \times (70/100) \times 6] : [70000 \times 3 + 70000 \times (120/100) \times 9]$$

$$= > 378000 : 612000 : 966000$$

$$= > 63 : 102 : 161$$

The share of Q = Rs. 61200

$$102's = 61200$$

$$1's = 600$$

Total profit = 326's = Rs. 195600

**9) Answer: D**

Ratio of profits = Ratio of amount\*time

Let, initial amounts of A, B and C be 4x, 6x and 9x

Profit ratio =  $(4x \times 2 + 4x \times 6) : (6x \times 2 + 4.5 \times 4 + 12x \times 6) : (9x \times 2 + 18x \times 4 + 10x \times 6)$

$$= (8x + 24x) : (12x + 18x + 72x) : (18x + 72x + 60x) = (32x) : (102x) : (150x) = 16 : 51 : 75$$

**10) Answer: C**

$$A - S = 4$$

$$A/F = 1/2$$

$$2A = F$$

$$(M + 12)/(S + 12) = 7/4$$

$$7S + 84 = 4M + 48$$

$$4M - 7S = 36$$

$$4M - 7(A - 4) = 36$$

$$4M - 7A + 28 = 36$$

$$4M - 7A = 8 \text{ —————(1)}$$

$$(F - A)/(M - A) = 6/5$$

$$6M - 6A = 5F - 5A$$

$$6M - 5F = A$$

$$6M - 5(2A) = A$$

$$6M - 11A = 0 \text{ —————(2)}$$

$$(1) \times 6 - (2) \times 4$$

$$A = 24 \text{ years}$$

$$F = 2 \times 24 = 48 \text{ years}$$

**11) Answer: B**

$$[(5x - 4x) + (7y - 6y)]/2 = 8.5$$

$$x + y = 17 \text{---(1)}$$

$$6y - 5x = 14 \text{---(2)}$$

$$(2) + (1) * 5$$

$$11y = 99$$

$$y = 9 \text{ years}$$

$$x = 8 \text{ years}$$

$$B = 8 * 4 = 32 \text{ years}$$

**12) Answer: C**

$$\text{CP of mobile} = y$$

$$\text{CP of laptop} = 3y$$

$$\text{Total amount paid by Ram} = (x * 3y) + (6 * y) = 3xy + 6y$$

$$\text{Total amount paid by Rahul} = (6 * 3y) + (x * y) = 18y + xy$$

$$\text{Amount Difference} = (18y + xy) - (3xy + 6y)$$

$$= 12y - 2xy$$

$$(12y - 2xy) = (40/100)(3xy + 6y)$$

$$60y - 10xy = 6xy + 12y$$

$$48y = 16xy$$

$$x = 3$$

**13) Answer: D**

$$\text{Number of balls in A} = 4x$$

$$\text{Number of balls in B} = 5x$$

$$\text{Number of balls in D} = 5x - 4$$

$$\text{Number of balls in C} = \frac{3}{4} * (5x - 4)$$

$$(4x + 5x + 5x - 4 + (15x - 12)/4)/4 = 87$$

$$14x + 15x/4 = 87 * 4 + 7$$

$$71x = 1420$$

$$x = 20$$

$$\text{Number of balls in A} = 20 * 4 = 80$$

**14) Answer: D**

$$\text{Number of male employees in A} = x$$

$$\text{Number of female employees in A} = x * 150/100 = 3x/2$$

$$\text{Total number of employees in A} = x + 3x/2 = 5x/2$$

$$\text{Number of male employees in B} = y$$

$$\text{Number of female employees in B} = 2y$$

$$\text{Total number of employees in B} = 3y$$

$$5x/2 - 3y = 120$$

$$5x - 6y = 240$$

$$5x = 240 + 6y$$

We cannot find the answer.

**15) Answer: A**

$$\text{Number of male in Chennai} = 3x$$

$$\text{Number of female in Chennai} = 2x$$

$$\text{Number of male in Bangalore} = 7y$$

$$\text{Number of female in Bangalore} = 3y$$

$$\text{Number of population is equal in Chennai and Bangalore}$$

$$3x + 2x = 7y + 3y$$

$$x = 2y$$

$$\text{Number of postgraduate male in Chennai} = 80/100 * 3x = 2.4x$$

$$\text{Number of postgraduate female in Bangalore} = 60/100 * 3y = 1.8y$$

$$2.4x + 1.8 * (x/2) = 3300$$

$$4.8x + 1.8x = 6600$$

$$x = 1000$$

$$\text{Male population in Chennai and Female population in Bangalore} = 3x + 3y = 3x + (3 * x/2) = 4.5x$$

$$\text{Required total} = 4.5 * 1000 = 4500$$

**16) Answer: C**

$$\text{Yellow balls from A} = 1/2 * 2x = x$$

$$\text{Yellow balls from B} = 3/5 * 3x = 9x/5$$

$$\text{Yellow balls from C} = 4/5 * x = 4x/5$$

$$\text{Total yellow balls} = x + 9x/5 + 4x/5 = 18x/5$$

$$\text{Required percentage} = (18x/5)/6x * 100 = 60\%$$

**17) Answer: E**

$$\text{Number of boys in class A} = 4x$$

$$\text{Number of girls in class A} = 5x$$

$$\text{Number of boys in class B} = 4y$$

$$\text{Number of girls in class B} = 3y$$

$$5x + 4x - 10 = 4y - 10 + 3y$$

$$9x = 7y$$

$$x/y = 7/9$$

**18) Answer: A**

$$\text{C's income} = x$$

$$\text{Expenditure} = y$$

$$\text{Savings} = s$$

$$x = y + s$$

$$y + s - s = 12000$$

$$y = 12000$$

$$\text{Savings} = 12000 * \frac{1}{2} = 6000$$

$$x = 12000 + 6000 = 18000$$

$$\text{B's income} = 2/1 * 18000 = 36000$$

$$\text{A's income} = 4/3 * 36000 = 48000$$

$$\text{Average income of A, B and C} = (48000 + 36000 + 18000)/3 = 34000$$

**19) Answer: C**

$$\text{Let the total amount divided by } 70x$$

$$\text{Amount received by A and C together} = 70x * (5/7) = 50x$$

$$\text{And amount received by B} = 70x * (2/7) = 20x$$

$$\text{Let the amount received by A} = 10k \text{ and amount received by C will be } 150\% \text{ of } 10k = (150/100) * 10k = 15k$$

$$\text{Amount received by A and C together} = 10k + 15k = 25k$$

$$\text{Since } 50x = 25k$$

$$2x = k$$

$$\text{Amount received by A} = 10k = 10 * 2x = 20x$$

$$\text{Amount received by C} = 15k = 1500$$

$$k = 100$$

$$2x = 100$$

$$x = 100/2 = 50$$

$$\text{Therefore, the sum of amount received by A and B} = 20x + 20x = 40x$$

$$= 40 \times 50 = \text{Rs. } 2000$$

**20) Answer: C**

$$\text{Milk in 40 liters} = \frac{5}{8} \times 40 = 25 \text{ liters}$$

$$\text{Water in 40 liters} = \frac{3}{8} \times 40 = 15 \text{ liters}$$

$$\text{Milk in 16 liters} = 16 \times \frac{5}{8} = 10 \text{ liters}$$

$$\text{Water in 16 liters} = 16 \times \frac{3}{8} = 6 \text{ liters}$$

$$\text{After adding 12 liters Now milk quantity} = 25 - 10 + 12 = 27 \text{ liters}$$

$$\text{Water quantity} = 15 - 6 = 9 \text{ liters}$$

$$\text{Now the ratio of milk and water} = 27:9 = 3:1$$

$$\text{Milk in 20 liters} = 20 \times \frac{3}{4} = 15 \text{ liters}$$

$$\text{Water in 20 liters} = 20 \times \frac{1}{4} = 5 \text{ liters}$$

$$\text{Final milk quantity} = 27 - 15 + 8 = 20 \text{ liters}$$

$$\text{Water quantity} = 9 - 5 = 4 \text{ liters}$$

$$\text{Required percentage} = \frac{4}{20} \times 100 = 20\%$$

**21) Answer: E**

Required ratio of Petrol, Diesel and Kerosene

$$= [4 \times \frac{3}{5} + 3 \times \frac{1}{3}]: [4 \times \frac{2}{5} + 2 \times \frac{3}{5}]: [3 \times \frac{2}{3} + 2 \times \frac{2}{5}]$$

$$= 17/5: 14/5: 14/5$$

$$= 17: 14: 14$$

**22) Answer: A**

$$\text{Milk in 80 liters} = 80 \times \frac{70}{100} = 56 \text{ liters}$$

$$\text{Water in 80 liters} = 80 \times \frac{30}{100} = 24 \text{ liters}$$

$$31.5 = 56 \times (1 - x/80)^2$$

$$4.5/8 = (1 - x/80)^2$$

$$4.5 \times 80 \times 80 / 8 = (80 - x)^2$$

$$60 = 80 - x$$

$$x = 20 \text{ liters}$$

**23) Answer: C**

Let the quantity of Rs 6.4/kg be x kg.

$$\text{S.P of mixture} = \text{Rs } [1.12 + (6.4 + 4.8)/2] = 1.12 + 5.6 = \text{Rs } 6.72$$

According to question,

$$\Rightarrow (x \times 6.4 + 4.8 \times 10) \times \frac{120}{100} = 6.72(x + 10)$$

$$\Rightarrow 6.4x \times \frac{120}{100} + 48 \times \frac{120}{100} = 6.72x + 67.2$$

$$\Rightarrow 0.96x = 9.6$$

$$x = \frac{9.6}{0.96} = 10 \text{ kg.}$$

**24) Answer: C**

$$\text{Milk in vessel A} = \frac{8}{13}$$

$$\text{Milk in vessel B} = \frac{7}{12}$$

$$\text{Milk in final mixture} = \frac{3}{5}$$

$$= 13:12$$

$$\text{Total quantity of vessel A} = \frac{13}{12} \times 60 = 65$$

$$\text{Quantity of milk in A} = 65 \times \frac{8}{13} = 40$$

**25) Answer: A**

$$\text{Milk} = 80 \times (1 - \frac{8}{80}) \times (1 - \frac{10}{80}) \times (1 - \frac{12}{80})$$

$$= 53.55 \text{ liters}$$