RATIO N PROPORTION

1. A sum of money is to be distributed among P, Q, R, S in the proportion of 1 : 2 : 3: 4. If Q gets Rs. 100 more than P, what is S's share :

(A) Rs. 600 (B) Rs. 300 (C) Rs. 400 (D) None

Sol. **(C)**

Let ratio constant is K

then Money of P= K

Money of Q = 2K

Money of R = 3K

Money of S = 4K

According to question

$2K = K + 100 \Rightarrow K = 100$

So, Share of S' = 4K = (4× 100) = 400 **Ans.**

2. The fourth proportional to 6, 9, 24 is :

(A) 20 (B) 36 (C) 56 (D) 46

Sol. **(B) 6*36=9*24**

3. If 3(X' capital) = 5 (Y's capital) = 7(Z's capital), then the ratio of their capitals is :

(A) 3 : 4 : 5 (B) 6 : 8 : 10 (C) 12 : 15 : 20 (D) 35: 21 : 15

Sol. **(D)**

X's Capital = K/3

Y's Capital = K/5

and Z's Capital = K/7

So, RATIO = 35:21:15

4. If Rs. 519 be divided into three parts, proportional to 1/3 : 3/5 :5/7 then the first part is :

(A) Rs. 105 (B) Rs. 195 (C) Rs. 186 (D) Rs. 205

Sol. **(A)**

Let ratio constant = K

then first part = K/3

second part = 3K/5

and Third part = 5K/7

NOW ratio is 35:63:75, so first part is (35/173)*519=105

5. Two numbers are in the ratio 3 : 7. If 9 is added to both, their ratio changes to 1 : 2. The smallest number is :

(A) 21 (B) 25 (C) 27 (D) 32

Sol. **(C)**

Let the ratio constant = K

Then first number = 3K and second number = 7K

According to question

$3k+9 / 7k+9 = 1/2 \Rightarrow 6K + 18 = 7K + 9$

$\Rightarrow K = 9$

Greatest Number = $3K = 3 \times 9 = 27$ Ans.

6. If P : Q = 3 : 4, Q : R = 8 : 9, R : S = 15 : 16, then P : Q :R : S is :
(A) 30 : 40 : 45 :48 (B) 30 : 40 : 48 : 45 (C) 40 : 30 : 45 : 48 (D) 30 : 48 : 45 : 40

Sol. **(A)**
If P : Q = 3 : 4, Q : R = 8 : 9, R : S = 15 : 16
So P : Q = 30 : 40, Q : R = 40 : 45, R : S = 45 : 48
Then P : Q : R : S = 30 : 40 : 45 : 48 **Ans.**

7. A cane of Paint was $\frac{3}{4}^{th}$ full. When two bottles of paint is poured into it, it is $\frac{4}{5}^{th}$ full. Find the number of bottles of paint that the full cane can hold :
(A) 20 (B) 15 (C) 40 (D) 30

Sol. **(C)**
According to question
3/4 F + 2b =4/5F

8. The ratio of a and b from the equation $12a^2 + 35b^2 - 43ab = 0$ is:
(A) 7 : 3 or 5 : 4 (B) 3 : 7 or 4 : 5 (C) 7 : 5 or 3 : 4 (D) 5 : 7 or 4 : 3

Sol. **(A)**
$12a^2 + 35b^2 - 43ab = 0$

$$b^2\left[12\left(\frac{a}{b}\right)^2 + 35 - 43\left(\frac{a}{b}\right)\right] = 0$$

$\Rightarrow$ Here let $\frac{a}{b} = K$

then $12K^2 + 35 - 43K = 0$ ‡ $(b \neq 0)$
$12K^2 + 35 - 43K = 0$
$\Rightarrow$ $4K(3K - 7) - 5(3K - 7) = 0$
$(3K - 7)(4K - 5) = 0$

$K = \frac{7}{3}$ or $\frac{5}{4}$

9. If A : B : C = 2 : 3 : 5 then $\frac{A}{B} : \frac{B}{C} : \frac{C}{A}$ is equal to :
(A) 20 : 18: 75 (B) 30 : 40 : 48 (C) 40 : 30 : 45 (D) 30 : 48 : 45

Sol.(A)

Sol. If $A : B : C = 2 : 3 : 5$

then $\frac{A}{B} : \frac{B}{C} : \frac{C}{A}$ =2k/3k : 3k/5k :5k/2k

Take L.C.M. of 3, 5, 2 = 30
= 2/3*30 : 3/5*30 : 5/2*30= 20 : 18: 75 **Ans.**

10. If 15a=24b=32c then a:b:c is equal to :

(A) 32 : 20: 15 (B) 30 : 40 : 48 (C) 40 : 30 : 45 (D) 30 : 48 : 45

Sol.(A)

a:b =8:5 and b:c =4:3 so a:b:c =32:20:15