

## IEM KOLKATA

## RATIO AND PROPORTION

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Q1) Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?

(a) 2 : 3 : 4 (b) 6 : 7 : 8 (c) 6 : 8 : 9 (d) 5 : 7 : 9

Q2) Ajay and Raj together have ₹1050. On taking ₹150 from Ajay, Ajay will have same amount as what Raj had earlier. Find the ratio of amounts with Ajay and Raj initially.

Q3) If  $x:y=3:4$ , then  $(7x+3y):(7x-3y)$  is equal to?

Q4) If  $a:b=5:7$  and  $c:d=2a:3b$ , then  $ac:bd$  is?

Q5) Three numbers are in the ratio  $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}$ . The difference between greatest and smallest numbers is 36. Find the numbers.

Q6) The ratio of market prices of wheat and paddy is 2:3 and the ratio of quantities consumed in a family is 5:4. Find the ratio of expenditure of wheat and paddy.

Q7) ₹8400 is divided among A, B, C and D in such a way that the shares of A and B, B and C, and C and D are in the ratios 2:3, 4:5 and 6:7 respectively. The share of A is?

Q8) In a library, the ratio of number of story books to that of non-story books was 4:3 and total number of story books was 1248. When some more story books were bought, the ratio became 5:3. Find the number of story books bought.

Q9) A bag contains 1 rupee, 50 p & 25 p coins are in the ratio 5:6:7. If the total amount is ₹390. Find the number of coins of each kind?

Q10) In a zoo, there are rabbits & pigeons. If heads are counted, there are 340 heads and if legs are counted, there are 1060 legs. How many pigeons are there?

(a) 120 (b) 150 (c) 180 (d) 170

Q11) If  $x$  is subtracted from each of 19, 27, 38 & 57, the numbers so obtained are in proportion. Find the value of  $(22x + 5)$ .

(a) 108 (b) 115 (c) 119 (d) 125