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| **RATIO & PROPORTION** |

1. **Divide Rs672 in the ratio 5 : 3**

Sum of the shares = 5 + 3 = 8

First part = 672 (5/8) = Rs420

Second part = 672 (3/8) = Rs252

1. **If 15% of x is the same as 20% of y, then x : y is:**
2. **3 : 4 (b) 4 : 3 (c) 17 : 16 (d) 16 : 17**

15% of x = 20% of y implies 15x = 20y implies (x/y) = (20/15) = (4/3) = 4 : 3

1. **If 7 : x = 17.5 : 22.5, then the value of x is:**
2. **5.5 (b) 6 (c) 7.5 (d) 9**

Product of means = Product of extremes

17.5x = (7)(22.5) implies x = (7)(22.5)/(17.5) = 9

1. **If 0.4 of a number is equal to 0.06 of another number, then the ratio of the numbers is:**
2. **2 : 3 (b) 3 : 4 (c) 3 : 20 (d) 20 : 3**

0.4A = 0.06B Implies (A/B) = (0.06/0.4) = (6/40) = (3/20) = 3 : 20

1. **Two whole numbers whose sum is 72 cannot be in the ratio:**
2. **5 : 7 (b) 3 : 5 (c) 4 : 5 (d) 3 : 4**

The sum of the ratio terms must divide 72. So, the ratio cannot be 3 : 4

1. **A and B together have Rs12100 with them. If (4/15) of A’s amount is equal to (2/5) of B’s amount, how much amount does B have?**
2. **Rs4660 (b) Rs4840 (c) Rs5500 (d) Rs6640**

(4/15)A = (2/5)B Implies (A/B) = (2/5)(15/4) = (3/2) = 3 : 2

B’s share = 12100(2/5) = Rs4840

1. **Five bananas and four apples cost as much as three bananas and seven apples. The ratio of the cost of one banana to that of one apple is:**
2. **3 : 2 (b) 4 : 3 (c) 3 : 4 (d) 1 : 3**

Let the cost of each banana be x rupees and that of each apple be y rupees. Then

5x + 4y = 3x + 7y implies 2x = 3y implies (x/y) = (3/2) = 3 : 2

1. **The salaries of A, B and C are in the ratio of 1 : 2 : 3. The salary of B and C together is Rs60000. By what percent is the salary of C more than that of A?**
2. **50% (b) 100% (c) 150% (d) 200%**

Let the salaries of A, B and C be x, 2x and 3x respectively.

Then 2x + 3x = 60000 implies x = (60000/5) = 12000

A’s salary = x = Rs12000

B’s salary = 2x = 2 x 12000 = Rs24000

C’s salary = 3x = 3 x 12000 = Rs36000

Excess of C’s salary over A’s = (24000/12000)(100) = 200%

1. **The speeds of three cars are in the ratio 5 : 4 : 6. The ratio between the times taken by them to travel the same distance is:**
2. **5 : 4 : 6 (b) 6 : 4 : 5 (c) 10 : 12 : 15 (d) 12 : 15 : 10**

Speeds and time taken are inverse proportional to each other.

Time taken = (1/5) : (1/4) : (1/6) LCM = 60

Ratio = 12 : 15 : 10

1. **Pencils, Pens and Exercise books in a shop are in the ratio of 10 : 2 : 3. If there are 120 pencils, the number of books in the shop is:**
2. **36 (b) 48 (c) 72 (d) 84**

Pencils = 10x = 120 implies x = 12 Books = 3x = 3 x 12 = 36

1. **The ratio of the number of boys and girls in a school is 3 : 2. If 20% of the boys and 25% of the girls are scholarship holders, the percentage of the school students who are not scholarship holders is:**
2. **56 (b) 70 (c) 78 (d) 80**

Let the boys and girls be 300 and 200 respectively.

Boys with no scholarship = 80% of 300 = 240

Girls with no scholarship = 75% of 200 = 150

Therefore 390 students out of 500 were no scholarship.

= (390/500)(100) = 78%