Practice Questions for Ratio & Proportion

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| Question | A sum of money is to be distributed among A, B, C, D in the proportion of5:2:4:3. If C gets $ 1000 more than D, what is B's share? |
| Option A | 500 |
| Option B | 1500 |
| Option C | 2000 |
| Option D | None of these |
| Answer | Option C |
| Explanation | Let the shares of A, B, C and D be $ 5x, $ 2x, $ 4x and $ 3x respectively. Then, 4x−3x=1000 ⇒ x=1000. B's share =$2x=$(2×1000)=**$ 2000**. |

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| Question | A sum of $312 was divided among 100 boys and girls in such a way that the boy gets $3.60 and each girl $2.40 the number of girls is |
| Option A | 35 |
| Option B | 40 |
| Option C | 45 |
| Option D | 50 |
| Answer | Option B |
| Explanation | **Step (i)** Let x be the number of boys and y be the number of girls.  Given total number of boys and girls = 100 x+y=100           -------------- (i)  **Step (ii)** A boy gets $ 3.60 and a girl gets $ 2.40 The amount given to 100 boys and girls = $ 312 3.60x+2.40y=312 -------------- (ii)  **Step (iii)** Solving (i) and (ii) 3.60x+3.60y=360       ------- Multiply (i) by 3.60 ⇒ 3.60x+2.40y=312 --------- (ii) 1.20y=48 y= (48/1.20) = 40  **⇒ Number of girls = 40** |

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| Question | In a mixture 60 litres, the ratio of milk and water 2:1. If the this ratio is to be1:2, then the quantity of water to be further added is: |
| Option A | 20 liters |
| Option B | 30 liters |
| Option C | 40 liters |
| Option D | 60 liters |
| Answer |  |
| Explanation | Quantity of milk =(60×2/3)litres =40 litres. Quantity of water in it =(60−40) litres =20 litres. New ratio =1:2  Let quantity of water to be added further be x litres. Then, milk : water  Now, [40/(20 + x)] = 1/2  ⇒ 20+x=80 ⇒ x= **60** |

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| Question | 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? |
| Option A | 2:3:4 |
| Option B | 2:3:5 |
| Option C | 6:7:8 |
| Option D | 6:8:9 |
| Answer | Option A |
| Explanation | Originally, let the number of seats for Mathematics, Physics and Biology be 5x, 7x and 8x respectively. Number of increased seats are (140% of 5x), (150% of 7x) and (175% of 8x). ⇒ (140/100×5x),(150/100×7x)and( 175/100×8x) ⇒ 7x, 21x/2 and14x.  ⇒ The required ratio =7x:21x/2:14x ⇒ 14x:21x:28x ⇒ **2 : 3 : 4** |

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| Question | If 40% of a number is equal to two-third of another number, what is the ratio of first number to the second number? |
| Option A | 2:5 |
| Option B | 3:7 |
| Option C | 5:3 |
| Option D | 7:3 |
| Answer | Option C |
| Explanation | Let 40% of A= 2/3  Then,  40A/100 = 2B/3 ⇒ 2A/5 = 2B/3  ⇒ A:B= **5 : 3.** |

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| Question | **The third proportional to 0.36 and 0.48 is :** |
| Option A | 0.64 |
| Option B | 0.1728 |
| Option C | 0.42 |
| Option D | 0.94 |
| Answer | Option A |
| Explanation | |  | | --- | | Let the third proportional to 0.36 and 0.48 be *x* | |  | | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Then, 0.36 : 0.48 :: 0.48 : *x* | |  | | --- | |  | |  | *x*= |  | |  | | --- | | 0.48 x 0.48 | | 0.36 | |  | = 0.64. | | |

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| Question | **The salaries of A, B, C are in the ratio 2 : 3 : 5. if the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be the new ratio of their salaries?** |
| Option A | 3 : 3 : 10 |
| Option B | 10 : 11 : 20 |
| Option C | 23 : 33 : 60 |
| Option D | Cannot be determined |
| Answer | Option C |
| Explanation | |  | | --- | | Let A = 2*k*, B = 3*k* and C = 5*k*. | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | A's new salary = | |  | | --- | | 115 | | 100 | | of 2*k* = |  | |  | | --- | | 115 | | 100 | | x 2*k* |  | = | |  | | --- | | 23 | | 10 | | *k* |  |  |  | | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | B's new salary = | |  | | --- | | 110 | | 100 | | of 3*k* = |  | |  | | --- | | 110 | | 100 | | x 3*k* |  | = | |  | | --- | | 33 | | 10 | | *k* |  |  |  | | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | C's new salary = | |  | | --- | | 120 | | 100 | | of 5*k* = |  | |  | | --- | | 120 | | 100 | | x 5*k* |  | = 6*k* |  |  |  |  | | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | |  | | --- | |  | |  | New ratio = | |  | | --- | | 23*k* | | 10 | | : | |  | | --- | | 33*k* | | 10 | | : 6k = 23 : 33 : 60. | | |

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| Question | **Zinc and copper are melted together in the ratio 9 : 11. What is the weight of melted mixture, if 28.8 kg of zinc has been consumed in it?** |
| Option A | 58 kg |
| Option B | 64 kg |
| Option C | 68 kg |
| Option D | 70 kg |
| Answer | Option B |
| Explanation | |  | | --- | | For 9 kg zinc, mixture melted = (9 + 11) kg. | |  | | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | For 28.8 kg zinc, mixture melted = |  | |  | | --- | | 20 | | 9 | | x 28.8 |  | kg = 64 kg. | | |

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| Question | **If 40% of a number is equal to two-third of another number, What is the ratio of first number to the second number?** |
| Option A | 5 : 3 |
| Option B | 3 : 7 |
| Option C | 7 : 3 |
| Option D | 11 : 3 |
| Answer | Option A |
| Explanation | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Let 40% of A = | |  | | --- | | 2 | | 3 | | B. Then, | |  | | --- | | 40A | | 100 | | = | |  | | --- | | 2B | | 3 | | |  | | --- | |  | | |  | | --- | | 2A | | 5 | | = | |  | | --- | | 2B | | 3 | | |  | | --- | |  | | |  | | --- | | A | | B | | = |  | |  | | --- | | 2 | | 3 | | x | |  | | --- | | 5 | | 2 | |  | = | |  | | --- | | 5 | | 3 | |  | | |  | | |  |  | | --- | --- | |  | A : B = 5 : 3. | | |

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| Question | **The ratio of 43.5 : 25 is same as :** |
| Option A | 2 : 1 |
| Option B | 4 : 1 |
| Option C | 7 : 5 |
| Option D | 7 : 10 |
| Answer | Option B |
| Explanation | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | |  | | --- | | 43.5 | | 25 | | = | |  | | --- | | (22)3.5 | | 25 | | = | |  | | --- | | 2(2 x 3.5) | | 25 | | = | |  | | --- | | 27 | | 25 | | = 22 = 4. |  | | |  | | |  |  | | --- | --- | |  | Required ratio is 4 : 1. | | |

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| Question | **A and B are two alloys of gold and copper prepared  by mixing metals in the ratio 7 : 2 and 7 : 11 respectively. If equal quantities of the alloys are melted to form a third alloy C, the ratio of gold and copper in C will be:** |
| Option A | 5 : 7 |
| Option B | 5 : 9 |
| Option C | 7 : 5 |
| Option D | 9 : 5 |
| Answer | Option C |
| Explanation | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Gold in C = |  | |  | | --- | | 7 | | 9 | | + | |  | | --- | | 7 | | 18 | |  | units = | |  | | --- | | 7 | | 6 | | units. Copper in C = |  | |  | | --- | | 2 | | 9 | | + | |  | | --- | | 11 | | 18 | |  | units = | |  | | --- | | 5 | | 6 | | units. | | |  | | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | |  | | Gold : Copper = | |  | | --- | | 7 | | 6 | | : | |  | | --- | | 5 | | 6 | | = 7 : 5. | | |

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| Question | **In a bag, there are coins of 25 p. 10 p and 5 p in the ratio of 1 : 2 : 3. If there are $ 30 in all, how many 5 p coins are there?** |
| Option A | 150 |
| Option B | 100 |
| Option C | 50 |
| Option D | 200 |
| Answer | Option A |
| Explanation | |  | | --- | | Let the number of 25 p, 10 p  and 5 p coins *x*, 2*x* and 3*x* respectively. | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Then, sum of their values = $ |  | |  | | --- | | 25*x* | | 100 | | + | |  | | --- | | 10 x 2*x* | | 100 | | + | |  | | --- | | 5 x 3*x* | | 100 | |  | = $ | |  | | --- | | 60*x* | | 100 | |  |  | | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | |  | | --- | |  | |  | |  | | --- | | 60*x* | | 100 | | = 30 | |  | | --- | |  | | x = | |  | | --- | | 30 x 100 | | 60 | | = 50. |  |  |  | | |  | | Hence, the number of 5 p coins = (3 x 50) = 150. | |  | |

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| Question | **If a carton containing a dozen mirrors is dropped, which of the following cannot be the ratio of broken mirrors to unbroken mirrors?** |
| Option A | 2 : 1 |
| Option B | 3 : 1 |
| Option C | 3 : 2 |
| Option D | 7 : 5 |
| Answer | Option C |
| Explanation | For dividing 12 into two whole numbers, the sum of the tatio terms must be a factor of 12.  So, they cannot be in the ratio 3 : 2. |

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| Question | **The ratio of the incomes of A and B is 5 : 4 and the ratio of their expenditures is 3 : 2. If at the end of the year, each saves $ 1600, then the income of A is :** |
| Option A | $ 3400 |
| Option B | $ 3600 |
| Option C | $ 4400 |
| Option D | $ 4000 |
| Answer | Option D |
| Explanation | |  | | --- | | Let the incomes of A and B be $ 5*x* and $ 4*x* respectively | |  | | and let their expenditures be $ 3*y* and $ 2*y* respectively. | |  | | Then, 5x - 3y = 1600        ....(i)        and       4x - 2y = 1600        ....(ii) | |  | | |  |  |  |  | | --- | --- | --- | --- | | On multiplying (i) by 2, (ii) by 3 and subtracting, we get : 2x = 1600 |  | x = 800. |  | | |  | | |  |  |  | | --- | --- | --- | |  |  | A's income = $ 5x = $ (5 x 800) = $ 4000. | | |

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| Question | **If A : B = 2 : 3, B : C = 4 : 5 and C : D = 6 : 7, then A : B : C : D is:** |
| Option A | 16 : 22 : 30 : 35 |
| Option B | 16 : 24 : 15 : 35 |
| Option C | 16 : 24 : 30 : 35 |
| Option D | 18 : 24 : 30 : 35 |
| Answer | Option C |
| Explanation | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | A : B = 2 : 3, B : C = 4 : 5 = |  | 4 x | |  | | --- | | 3 | | 4 | |  | : |  | 5 x | |  | | --- | | 3 | | 4 | |  | = 3 : | |  | | --- | | 15 | | 4 | |  |  | | |  | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | and C : D = 6 : 7 = |  | 6 x | |  | | --- | | 15 | | 24 | |  | : |  | 7 x | |  | | --- | | 15 | | 24 | |  | = | |  | | --- | | 15 | | 4 | | : | |  | | --- | | 35 | | 8 | |  |  | | |  | | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | |  | | --- | |  | | A : B : C : D = 2 : 3 : | |  | | --- | | 15 | | 4 | | : | |  | | --- | | 35 | | 8 | | = 16 : 24 : 30 : 35. | | |