

MIXTURE

AND

ALLIGATION

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**Q.1.** If the average weight of a class is 15 kg average weight of another class is 30 kg, then. find the ratio of the students of the first class to the another class students when the average weight of both the classes is 25 kg:

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**Q.2.** The average weight of girls is 15 and the average weight of boys is 30 and the average weight of boys and girls both is 25. If the number of boys are 12, then the number of girls is ?

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**Q.3** The average weight of a Class of 40 students is 30 kg and the average weight of a class of 20 students is 15 kg. Find the average weight of both the classes combined.

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**Q.4** 16 litres of wine is mixed with 5 litres of water . The price of wine is Rs. 12 per litre and the price of water is Rs. 33 per litre. The average price of the mixture per litre is ?

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**Q.5** Box A contains wheat worth Rs.30 per kg and box B contains wheat worth Rs.40 per kg. If both A and B are mixed in the ratio 4:7 then the price of mixture per kg is:

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**Q.6** How many kilograms of sugar worth Rs 3.60 per kg should be mixed with 8 kg of sugar Rs 4.20 per kg such that by selling the mixture at Rs 4.40 per kg, there may be a gain of 10% ?

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**Q.7** A shopkeeper purchased two qualities of pulses at the rate of Rs 200 per quintal and Rs 260 per quintal. In 52 quintals of the second quality, how much pulse of the first quality should be mixed so that by selling the resultant mixture at Rs 300 per quintal, he gains a profit of 25% ?

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**Q.8** A seller has two variety of rice worth Rs.60 per kg and Rs.66 per kg. If he get 10% profit by selling the mixture of two varieties at Rs. 68.2 per kg then the mixing ratio is :

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**Q. 9** The price of petrol is Rs 60 per litre and the price of oil is Rs 40 per litre. In what ratio the petrol and oil be mixed such that the profit after selling the mixture at Rs 70 per litre be 25%?

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**Q.10** Ramesh travels 30 minutes at the speed of 20km/hr. Further he travels 20 minutes at the speed of 30 Km/hr. Find his average speed ?

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**Q.11** Mahesh covered 200 km distance in 10 hours. The first part of his journey he covered by car, then he hired a rickshaw. The speed of car and rickshaw is 30 km/hr and 15 km/hr respectively. The ratio of distances covered by car and the rickshaw respectively are ?

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**Q.12** A milkman has two types of milk. In the first container quantity of milk is 80% and in the second container milk is 60%, if he mixes 28 litre milk of the first container to 32 litres of milk in the second container. Find the percentage of milk in the mixture ?

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**Q.13** A sum of Rs 42 was divided among 50 students. If each boy got 60 P and each girl got 90 P .

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**Q.14** A man has 108 kg rice of which some part he sold at a profit of 30% and rest part at a loss of 15 %, such that he gains 10% profit on selling the total mixture then how much quantity sold at a profit of 30% ?

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**Q.15** In the delhi zoo, there are deers and ducks. If the heads are counted , there are 160 while the legs are 440. What will be the number of deers in the zoo ?

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**Q.16** In a MCD Parking there are some two wheelers and remaining are four wheelers vehicle. If wheels are counted, there are total 520 wheels but the incharge of the parking told that there are only 175 vehicles. then the no. of two wheelers is ?

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**Q.17** A sum of Rs 34.00 is made up of 80 coins that are either 20 paise coins or 50 paise coins. Find out how many 20 paise coins are there in the total amount ?

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**Q.18** In a pocket there are Rs 20 consisting of only the denominations of 20 paise and 50 paise . Thus there are total 70 coins in the pocket. The no. of coins of the denomination of 50 paise is :

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**Q.19** A milkman sells the milk at the cost price but he mixes water in it and thus he gains 8.33%. The quantity of water in the mixture of 1 litre is ?

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**Q.20** A dishonest grocer professes to sell pure milk at cost price, but he mixes it with adulterated fat and hereby gains 20%. Find the percentage of adulterated fat in the mixture assuming that adulterated fat is freely available ?

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**Q.21** A student gets +3 marks for each right answer and - 0.5 mark for each wrong answer in an exam, which consists 250 questions. If the student gets 477 marks in the exam, find the number of wrong questions attempted by student ?

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**Q.22** A man purchased a book and pen for Rs 1200. He sold the pen at a profit of 15% and the book at a profit of 30%. In this way his total profit was 20%. Find the cost price of the book ?

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**Q.23** 20 pens and 16 pencils are purchased by a man for Rs 360, he sold the pens at 25% profit and pencils at  $\frac{7}{5}$  th of the cost price. Find the price of each pencil, if he earns profit of Rs 120 at the end.

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**Q.24** A person buys two tables in Rs 900. If he sells first one at  $\frac{4}{5}$ <sup>th</sup> of cost price and second one at  $\frac{5}{4}$  of cost price. In this whole transaction he gains Rs 90. Find the cost price of a table ?

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**Q.25** A mixture of 20 litres of milk and water contains 10% water. How much water should be added to it to increase the percentage of water to 25%?

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**Q.26** A mixture of water and milk contains 80% milk. In 50 litres of such a mixture, how many litres of water is required to increase the percentage of water to 50% ?

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**Q.27** In the 75 litres of mixture of soda and water, the ratio of soda and water is 4:1. The quantity of water required to make the ratio of soda and water 3:1 is ?

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**Q.28** In what ratio, water must be mixed with fruit juice costing Rs.24 per litre so that the juice would be worth of Rs.20 per litre?

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**Q.29** The quantity of mixture of milk and water in a mixture is 70 litre. This mixture contains 10% water. How many litres of water should be mixed in the mixture to make 25% water in the mixture?

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**Q.30** Two vessels contain spirit and water mixed respectively in the ratio of 1:3 and 3:5. Find the ratio in which they are to be mixed to get a new mixture in which the ratio of spirit to water is 1:2 ?

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**Q.31** The ratio of water and wine in two different mixtures is 2:3 and 4:5. In what ratio we are required to mix these two to get the new mixture in which the ratio of wine and water is 7:5 ?

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**Q.32** A container contains mixture of oil and kerosene in 3:2. 10 litres of mixture is taken out and replaced with kerosene then the ratio becomes 2:3. Find the quantity of mixture ?

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**Q.33** A wine contains 45% alcohol and remaining water. Some wine is taken out and replaced with wine containing 20% alcohol, now the wine bottle contains 25% alcohol. Find out how much wine was replaced ?

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**Q.34** A container contains 60 litres of milk and 12 litres of milk is taken out and replaced with water. This process is repeated once more and in the end the ratio of milk and water is

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**Q.35** A 20 litre cylinder contains a mixture of oxygen and nitrogen. In which oxygen is 25% of the mixture. Some litres of the mixture is taken out and replaced by nitrogen and this process is repeated one more time. At the end oxygen remained 16% of the mixture, find the quantity of mixture taken out at a time ?

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**Q.36** A dishonest milkman has taken out 15 L of milk from a container and replaced with the same quantity of water. He again repeated this process 2 times. Thus the ratio of the milk becomes 216:127. Find the initial amount of milk in the containers ?

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**Q.37** A container contains 81 litres of milk. 33.33% of milk is taken out of the container and replaced with water and this process is repeated once more. Then find the ratio of water and milk in the resultant mixture ?

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**Q.38** A container is filled with milk. 10 litres of milk is taken out and replaced with water. This process is repeated once more. Find the initial amount of milk if at the end ratio of water and milk is 32:49 ?

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**Q.39** A container is filled completely with milk. 7 litres of milk is taken out and replaced with water . This process is repeated once more. The resultant mixture has water and milk in the ratio 11:25. Find the capacity of the container ?

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