Mixture & Alligation

1) A vessel is full of mixture of spirit and water in which there is 20 per cent of spirit. 5 litres are drawn off and the vessel is filled up with water. If the spirit is now 12 %, find the total quantity in the vessel (in ltrs).

a) 72 b) 12.5
c) 60 d) 7.2

2) How much chicory at Rs. 5 a kg should be added to 20 kg of coffee at Rs. 12 a kg so that the mixture be worth Rs. 7.50 a kg.?

a) 21 kg b) 15 kg
c) 36 kg d) 42 kg

3) An alloy of copper and nickel contains 65 % copper. A second alloy contains copper and nickel in the ratio 17 : 3. In what ratio should the two alloys be mixed so that the new mixture contains 4 times as much copper as nickel?

a) 4 : 5 b) 5 : 4
c) 1 : 3 d) 2 : 3

4) Five litres of wine is removed from a cask full of wine and is replaced with water. Five litres of this mixture is then removed and replaced with water. If the ratio of wine to water in the cask is now 16 : 9, how much wine did the cask hold ?

a) 25 litres b) 50 litres
c) 100 litres d) 150 litres

5) A mixture of 150 liters of wine and water contains 20% water. How much more water should be added so that water becomes 25% of the new mixture?

a) 10 liters b) 20 liters
c) 30 liters d) 40 liters

6) A container contains 50 litres of milk. From that 8 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container ?

a) 24.52 litres b) 29.63 litres
c) 28.21 litres d) 25.14 litres

7) The ratio of petrol and kerosene in the container is 3:2 when 10 liters of the mixture is taken out and is replaced by the kerosene, the ratio become 2:3. Then total quantity of the mixture in the container is:

a) 25 B) 30
c) 45 d) cannot be determined

8) The diluted wine contains only 8 liters of wine and the rest is water. A new mixture whose concentration is 30%, is to be formed by replacing wine. How many liters of mixture shall be replaced with pure wine if there was initially 32 liters of water in the mixture ?

a) 4 b) 5
c) 8 d) None of these

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9) The ratio of expenditure and savings is 3 : 2 . If the income increases by 15% and the savings increases by 6% , then by how much percent should his expenditure increases?

a) 25 b) 21
c) 12 d) 24

10) From a container, 6 liters milk was drawn out and was replaced by water. Again 6 liters of mixture was drawn out and was replaced by the water. Thus the quantity of milk and water in the container after these two operations is 9:16. The quantity of mixture is:

a) 15 b) 16
c) 25 d) 31

11) A milk man sells the milk at the cost price but he mixes the water in it and thus he gains 9.09%. The quantity of water in the mixture of 1 liter is :

a) 83.33 ml
b) 90.90 ml
c) 99.09 ml
d) can't be determined

12) In a mixture of milk and water the proportion of water by weight was 75%. If in 60 gm of mixture 15 gm water was added, what would be the percentage of water ? (Weight in gm)

a) 80% b) 70%
c) 75% d) 62%

13) A jar was full with honey. A person used to draw out 20% of the honey from the jar and replaced it with sugar solution. He has repeated the same process 4 times and thus there was only 512 gm of honey left in the jar, the rest part of the jar was filled with the sugar solution. The initial amount of honey in the jar was filled with the sugar solution. The initial amount of honey in the jar was:

a) 1.25 kg b) 1 kg
c) 1.5 kg d) None of these

14) The average weight of boys in a class is 30 kg and the average weight of girls in the same class is 20kg. If the average weight of the whole class is 23.25 kg, what could be the possible strength of boys and girls respectively in the same class?

a) 14 and 16 b) 13 and 27
c) 17 and 27 d) None of these

15) In the 75 litres of mixture of milk and water, the ratio of milk and water is 4:1. The quantity of water required to make the ratio of milk and water 3:1 is

a) 1 litre b) 3 litres
c) 4 litres d) 5 litres

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16) In a mixture of milk and water, there is only 26% water. After replacing the mixture with 7 liters of pure milk , the percentage of milk in the mixture become 76%. The quantity of mixture is:

a) 65 liters b) 91 liters
c) 38 liters d) None of these

17) Equal quantities of three mixtures of milk and water are mixed in the ratio 1:2, 2:3 and 3:4. The ratio of water and milk in the mixture is ?

a) 193 : 122 b) 97 : 102
c) 115 : 201 d) 147 : 185

18) A mixture of 150 liters of wine and water contains 20% water. How much more water should be added so that water becomes 25% of the new mixture ?

a) 5 lit b) 10 lit
c) 15 lit d) 20 lit

19) From a tank of petrol , which contains 200 liters of petrol, the seller replaces each time with kerosene when he sells 40 liters of petrol(or mixture). Everytime he sells out only 40 liters of petrol (pure or impure). After replacing the petrol with kerosene 4th time, the total amount of kerosene in the mixture is

a) 81.92L b) 96L
c) 118.08L d) None of these

20) 4 kg of a metal contains 1/5 copper and rest in Zinc. Another 5 kg of metal contains 1/6 copper and rest in Zinc.The ratio of Copper and Zinc into the mixture of these two metals:

a) 49 : 221 b) 39:231
c) 94:181 d) None of these

21) A container contains 40 litres of milk.From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container.

a) 26.34 litres b) 27.36 litres
c) 28 litres d) 29.16 litres

22) A man travelled a distance of 80 km in 7 hours partly on foot at the rate of 8 km per hour and partly on bicycle at 16 km /hr. Find the distance travelled on foot ?

a) 50 b) 60
c) 32 d) 80

23) One type of liquid contains 25 % of benzene, the other contains 30% of benzene. A can is filled with 6 parts of the first liquid and 4 parts of the second liquid. Find the percentage of benzene in the new mixture.

a) 27 % b) 26 %
c) 29 % d) 21 %

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24) The amount of water (in ml) that should be added to reduce 9 ml lotion, containing 50% alcohol, to a lotion containing 30% alcohol is ?

a) 6 ml b) 11 ml
c) 15 ml d) 9 ml

25) A milkman claims to sell milk at its cost price, still, he is making a profit of 30% since he has mixed some amount of water in the milk. What is the % of milk in the mixture?

a) 71.02% b) 76.92%
c) 63.22% d) 86.42%

26) A shopkeeper deals in milk and 45 litre mixture is to be distributed in Milk & Water in the ratio of 4 : 1. If 4 litre milk & 3 litre water will be added in the mixture then what will be the new ratio of water and milk?

a) 5 : 6 b) 3 : 10
c) 4 : 5 d) 7 : 8

27) 48 litre of Glycerin is mixed with 144 litre Rose water. D litre of total mixture is taken out and 32 litre Glycerin and 48 litre Rose water are added in the mixture. The final mixture contains 30% Glycerin, find the quantity of the mixture that is taken out.

a) 24 litres b) 32 litres
c) 40 litres d) 20 litres

28) In a mixture, the ratio of the alchohol and water is 6 : 5. When 22 litre mixture are replaced by water, the ratio becomes 9 : 13. Find the quantity of water after replacement.

a) 62 litres b) 50 litres
c) 40 litres d) 52 litres

29) A solution of 'THANDA SHARBAT' has 15% sugar. Another solution has 5% sugar. How many liters' of the second solution must be added to the 20L of first solution to make a solution of 10 % sugar?

a) 10 L b) 5 L
c) 15 L d) 20 L

30) Copper and Zinc are in the ratio 2 : 3 in 200 gms of an alloy. The quantity (in grams) of copper to be added to it to make the ratio 3 : 2 is:

a) 150gm b) 100gm
c) 120gm d) 125gm

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