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## MATHS

## BOOKS - ARIHANT SSC MATHS

## (HINGLISH)

## MIXTURE OR ALLIGATION

Example

1. In what proportion, must wheat at rs 6.20
per kg be mixed with wheat at rs 7.20 per kg ,
so that the mixture be worth rs 6.50 per kg ?

## D Watch Video Solution

2. A mixture of a certain quantity of milk and

16 L of water is worth 0.75 per liter. If pure milk be worth 2.25 per lite, then how much milk is there in the mixture ?

## D Watch Video Solution

3. If 50 L of milk solution has $40 \%$ milk in it ,
then how much milk should be added to make
it $60 \%$ in the solution?

## - Watch Video Solution

4. A container contains 40 L of milk .from this container, 4 L of milk was taken out and replaced by water. This process was further repeated two times. How much milk is now there in the container?
5. In a container , milk and water are present in the ratio 7: 5 . If 15 L water is added to this mixture, the ratio of milk and water becomes 7
:8. find the quantity of water in the new mixture.

## D Watch Video Solution

6. 2 equal containers have milk and water in
the ratio 2: 1 and $3: 1$. Respectively, If both
containers are emptied into a bigger container, then find the ratio of milk to water in bigger container?

## D Watch Video Solution

7. In what proportion, must wheat at rs 6.20 per kg be mixed with wheat at rs 7.20 per kg , so that the mixture be worth rs 6.50 per kg ?
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9. If 50 L of milk solution has $40 \%$ milk in it ,
then how much milk should be added to make it $60 \%$ in the solution?
10. A container contains 40 L of milk .from this container, 4 L of milk was taken out and replaced by water. This process was further repeated two times. How much milk is now there in the container ?

## D Watch Video Solution

11. In a container, milk and water are present
in the ratio 7: 5 . If 15 L water is added to this mixture, the ratio of milk and water becomes 7
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## D Watch Video Solution

12. 2 equal containers have milk and water in
the ratio 2: 1 and $3: 1$. Respectively, If both containers are emptied into a bigger container, then find the ratio of milk to water in bigger container?

## Multi Concept

1. Jagatram, a milk seller has certain quantity of milk to sell. In water ratio he should mix water to gain $5 \%$ by selling the mixture at the cost price ?
A. $1: 10$
B. $1: 5$
C. 1: 20
D. 1: 15

## Answer: C

## D Watch Video Solution

2. IF the price of three types of rice are 480576 and 696 per quintal, then find the ratio in which these types of rices should be mixed, so that the resulant mixture cost 564 per quintal ?
A. 0.92440972222222
B. 1.1764699074074
C. 0.5884375
D. 11:77:7

## Answer: D

## D Watch Video Solution

3. Jagatram, a milk seller has certain quantity of milk to sell. In water ratio he should mix water to gain $5 \%$ by selling the mixture at the cost price ?
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A. 0.92440972222222
B. 1.1764699074074
C. 0.5884375
D. 11:77:7

Answer: D
(D) Watch Video Solution

1. In what ratio must a grocer mix two types of rice costing rs7.50 per kg and rs 10 per kg , respectively, so as to get a mixture worth rs 8.25 per kg ?
A. $4: 3$
B. 7: 3
C. $8: 3$
D. $2: 5$

## - Watch Video Solution

2. In what proportion must a grocer mix wheat at rs 2.04 per kg and rs 2.88 per kg so as to make a mixture of worth rs 2.52 per kg ?
A. $2: 3$
B. $3: 2$
C. $5: 3$
D. $3: 4$
3. A milkman bought 15 L of milk are mixed 3 L of water in it. If the price per kg of the mixture becomes 22 , what is cost price of the milk per litre?
A. 28.00
B. 26.40
C. 24.00
D. 22.60

Answer: B

## D Watch Video Solution

4. A mixture of certain quantity of milk with 8 L of water is worth 45 paise per litre. If pure milk be worth 54 paise per litre, how much milk is there in the mixture?
A. 40 L
B. 35 L
C. 25 L
D. 45 L

## Answer: A

## - Watch Video Solution

5. The ratio of milk and water in mixtures of
four containers are $5: 3,2: 1,3: 2$ and $7: 4$ re spectively. In which container is the quantity of milk, relative to water, minimum?
A. First

## B. Second

C. Third
D. Fourth

## Answer: C

## D Watch Video Solution

6. A merchant has 2000 kg of rice, one part of which he sells at $36 \%$ profit and the rest at $16 \%$ profit.He gains $28 \%$ on the whole.Find the quantity sold at $16 \%$.
A. 400 kg
B. 300 kg
C. 900 kg
D. 800 kg

## Answer: D

## D Watch Video Solution

7. A trader has 50 kg of pulses, part of which he sells at $8 \%$ profit and rest at $18 \%$ profit. He
gains $14 \%$ on the whole.What is the quantity

## sold at $18 \%$ profit?

A. 30 kg
B. 35 kg
C. 40 kg
D. 60 kg

Answer: A
( Watch Video Solution
8. A person had ₹ 8400 . He lent a part of it at $4 \%$ and the remaining at $3 \frac{1}{3} \%$ simple interest. His total annual income was ₹ 294.

Find the sum he lent at $4 \%$
A. 2310
B. 2110
C. 2500
D. 2100

Answer: D
9. A merchant had 50 kg of pulse.He sells ane part at a profit of $10 \%$ and other at $5 \%$ loss.

Overall he had a gain of $7 \%$. Find the quantity of pulses, which he sold at $10 \%$ profit and $5 \%$ loss.
A. $40 \mathrm{~kg}, 10 \mathrm{~kg}$
B. $40 \mathrm{~kg}, 15 \mathrm{~kg}$
C. $40 \mathrm{~kg}, 12 \mathrm{~kg}$
D. $40 \mathrm{~kg}, 9 \mathrm{~kg}$

## D Watch Video Solution

10. A goldsmith has two qualities of gold, one of 24 carats and another of 32 carats purity.In whta proportion should he mix both to make an ornament of 30 carats purity?
A. $1: 3$
B. $2: 3$
C. $3: 2$

## D. $1: 5$

Answer: A

## D Watch Video Solution

11. 300 g of salt solution has $40 \%$ salt in it. How
much salt should be added to make it $50 \%$ in
the solution?
A. 40 g
B. 60 g
C. 70 g
D. 80 g

Answer: B

## D Watch Video Solution

12.600 g of sugar solution has $40 \%$ sugar in it.

How much sugar should be added to make it $50 \%$ in the solution?
A. 160 g
B. 120 g
C. 130 g
D. 140 g

Answer: B

D Watch Video Solution
13. A milk seller has a milk of $r$ s 100 per litre.In
what ratio should water be mixed in that milk,
so that after selling the mixture at rs 80 per
litre, he may get a profit of $50 \%$ ?
A. $7: 8$
B. $7: 9$
C. 9:7
D. $7: 5$

Answer: A

## D Watch Video Solution

14. How many kilograms of tea worth Rs 25 per kg must be blended with 30 kg of tea worth Rs

30 per kg , so that by selling the blended
variety at Rs 30 per kg, there should be a gain

## of $10 \%$ ?

A. 36 kg
B. 40 kg
C. 32 kg
D. 42 kg

Answer: A
( Watch Video Solution
15. In two types of stainless steel, the ratio of chromium and steel are 2:11 and 5:21 ,respectively. In what proportion should the two types be mixed, so thta the ratio of chromium to steel in the mixed type become 7:32?
A. 1:2
B. 1:3
C. 2:3
D. 3:4

Answer: A

## D Watch Video Solution

16. A vessel is filled with milk and water. $70 \%$ of
milk and $30 \%$ of water is taken out of the
vessel.It is found that the vessel is vacated by
$55 \%$ and has 160 L mixture.Find the quantity of milk and water in this mixture.
A. Milk $=100 \mathrm{~L}$, Water $=60 \mathrm{~L}$
B. Milk $=50 \mathrm{~L}$, Water $=110 \mathrm{~L}$

## C. Milk $=70 \mathrm{~L}$, Water $=90 \mathrm{~L}$

D. Milk $=60 \mathrm{~L}$, Water $=100 \mathrm{~L}$

## Answer: A

## D Watch Video Solution

17. In what ratio must a grocer mix two types of rice costing rs7.50 per kg and rs10 per kg, respectively, so as to get a mixture worth rs 8.25 per kg ?
A. $4: 3$
B. 7:3
C. $8: 3$
D. 2:5

Answer: B

## D Watch Video Solution

18. In what proportion must a grocer mix wheat at rs 2.04 per kg and rs 2.88 per kg so as to make a mixture of worth rs2.52 per kg?
A. $2: 3$
B. 3:2
C. $5: 3$
D. $3: 4$

## Answer: D

## D Watch Video Solution

19. A milkman bought 15 L of milk are mixed 3 L of water in it. If the price per kg of the mixture
becomes 22 , what is cost price of the milk per litre?
A. ? 28.00
B. ? 26.40
C. ?24.00
D. ? 22.60

Answer: B
( Watch Video Solution
20. A mixture of certain quantity of milk with 8

L of water is worth 45 paise per litre. If pure milk be worth 54 paise per litre, how much milk is there in the mixture?
A. 40 L
B. 35 L
C. 25 L
D. 45 L

Answer: A
21. The ratio of milk and water mixture of four containers are $5: 3,2: 1,3: 2$ and $4: 5$ respectively. In which container, is the quantity of milk relative to water minimum ?
A. First
B. Second
C. Third
D. Fourth

## Answer: D

## D Watch Video Solution

22. A merchant has 2000 kg of rice, one part of
which he sells at $36 \%$ profit and the rest at $16 \%$
profit.He gains $28 \%$ on the whole.Find the quantity sold at $16 \%$.
A. 400 kg
B. 300 kg
C. 900 kg

## D. 800 kg

## Answer: D

## D Watch Video Solution

23. A trader has 50 kg of pulses, part of which
he sells at $8 \%$ profit and rest at $18 \%$ profit. He
gains $14 \%$ on the whole.What is the quantity
sold at $18 \%$ profit?
A. 30 kg
B. 35 kg
C. 40 kg
D. 60 kg

## Answer: A

## D Watch Video Solution

24. A person had ₹ 8400 . He lent a part of it at $4 \%$ and the remaining at $3 \frac{1}{3} \%$ simple interest. His total annual income was ₹ 294.

Find the sum he lent at 4\%
A. 2310
B. 2110
C. 2500
D. 2100

## Answer: D

## D Watch Video Solution

25. A merchant had 50 kg of pulse. He sells ane part at a profit of $10 \%$ and other at $5 \%$ loss.

Overall he had a gain of $7 \%$. Find the quantity
of pulses, which he sold at $10 \%$ profit and $5 \%$
loss.
A. $40 \mathrm{~kg}, 10 \mathrm{~kg}$
B. $40 \mathrm{~kg}, 15 \mathrm{~kg}$
C. $40 \mathrm{~kg}, 12 \mathrm{~kg}$
D. $40 \mathrm{~kg}, 9 \mathrm{~kg}$

Answer: A

D Watch Video Solution
26. A goldsmith has two qualities of gold, one of 24 carats and another of 32 carats purity.In whta proportion should he mix both to make an ornament of 30 carats purity?
A. $1: 3$
B. $2: 3$
C. $3: 2$
D. 1:5

Answer: A
27. 300 g of salt solution has $40 \%$ salt in it.

How much salt should be added to make it $50 \%$ in the solution?
A. 40 g
B. 60 g
C. 70 g
D. 80 g

Answer: B
28. 600 g of sugar solution has $40 \%$ sugar in
it. How much sugar should be added to make
it $50 \%$ in the solution?
A. 160 g
B. 120 g
C. 130 g
D. 140 g

Answer: B

## - Watch Video Solution

29. A milk seller has a milk of rs 100 per litre.In
what ratio should water be mixed in that milk,
so that after selling the mixture at rs 80 per litre, he may get a profit of $50 \%$ ?
A. $7: 8$
B. $7: 9$
C. 9:7
D. 7:5

Answer: A

## D Watch Video Solution

30. How many kilograms of tea worth Rs 25 per kg must be blended with 30 kg of tea worth Rs

30 per kg, so that by selling the blended variety at Rs 30 per kg, there should be a gain of $10 \%$ ?
A. 36 kg
B. $40 \mathrm{~kg}, 15 \mathrm{~kg}$
C. 32 kg
D. 42 kg

## Answer: A

## D Watch Video Solution

31. In two types of stainless steel, the ratio of chromium and steel are 2:11 and 5:21 ,respectively. In what proportion should the two types be mixed, so theta the ratio of
chromium to steel in the mixed type become
$7: 32$ ?
A. 1: 2
B. $1: 3$
C. $2: 3$
D. $3: 4$

Answer: A
( Watch Video Solution
32. A vessel is filled with milk and water. $70 \%$ of milk and $30 \%$ of water is taken out of the vessel.It is found that the vessel is vacated by
$55 \%$ and has 160 L mixture.Find the quantity of milk and water in this mixture.
A. Milk $=100 \mathrm{~L}$, Water $=60 \mathrm{~L}$
B. Milk $=50 \mathrm{~L}$, Water $=110 \mathrm{~L}$
C. Milk $=70 \mathrm{~L}$, Water $=90 \mathrm{~L}$
D. Milk $=60 \mathrm{~L}$, Water $=100 \mathrm{~L}$

## - Watch Video Solution

## Higher Skill Level Questions

1. A butler stole wine from a butt of sherry which contained $80 \%$ of spirit and he replaced
it by wine containing only $32 \%$ spirit. Then, the butt was of $48 \%$ strength only. How much of the butt did he steal?
A. $\frac{1}{4}$
B. $\frac{3}{5}$
C. $\frac{2}{5}$
D. $\frac{2}{3}$

## Answer: D

## D Watch Video Solution

2. In a mixture of 60 L the ratio of acid and
water is $2: 1$.If the ratio of acid and water is to
be $1: 2$, then the amount of water(in litre) to be added to the mixture is
A. 55
B. 60
C. 50
D. 45

Answer: B

D Watch Video Solution
3. Tea worth Rs 126 per kg and Rs 135 per kg are mixed with a third variety In the ratio
$1: 1: 2$. If the mixture is worth Rs 153 per kg ,
the price of the third variety per kg will be
A. 169.5
B. 170.0
C. 175.5
D. 180.0

Answer: C

## D Watch Video Solution

4. A butler stole wine from a butt of sherry which contains $15 \%$ of spirit and he replaced what he had stolen by wine containing $6 \%$ of spirit.The butt was then $9 \%$ strong only.How much of the butt did he steal?

$$
\begin{aligned}
& \text { A. } \frac{2}{3} \\
& \text { B. } \frac{1}{3} \\
& \text { C. } \frac{2}{5} \\
& \text { D. } \frac{3}{5}
\end{aligned}
$$

## - Watch Video Solution

5. 4 L are drawn from a container full of milk and then is filled with water.This operation is performed three more times. The ratio of the quantity of milk in the container and that of water is 16:65.How much milk did the container hold initially?
A. 24 L
B. 12 L
C. 15 L
D. 25 L

Answer: B

## D Watch Video Solution

6. A container is filled with liquid, 6 part of which are water 10 part milk. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half milk?

$$
\text { A. } \frac{1}{3}
$$

B. $\frac{1}{7}$
C. $\frac{1}{5}$
D. $\frac{1}{8}$

## Answer: C

## - Watch Video Solution

7. A container contains a mixture of two liquid
$A$ and $B$ in the ration of $7: 5$. When 9 L of mixture is drawn off and the container is filled with $B$, the ratio of $A$ and $B$ becomes 7:9.

Howe many litres of liquid A was contained by
the container initially?
A. 10
B. 20
C. 21
D. 25

Answer: C
( Watch Video Solution
8.60 kg of certain variety of rice at 32 per kg is mixed with 48 kg of another variety of rice and the mixture is sold at he average price of 28 per kg.If there be no profit or loss due to the new sale price, then the price of the second
variety of rice is
A. 25.60 perkg
B. 25 perkg
C. 23perkg
D. 30 perkg

## Answer: C

## D Watch Video Solution

9. A butler stole wine from a butt of sherry
which contained $80 \%$ of spirit and he replaced
it by wine containing only $32 \%$ spirit. Then, the butt was of $48 \%$ strength only. How much of the butt did he steal?
A. $\frac{1}{4}$
B. $\frac{3}{5}$
C. $\frac{2}{5}$
D. $\frac{2}{3}$

## Answer: D

## D Watch Video Solution

10. . In a mixture of 60 litres, the ratio of milk and water is $2: 1$. If the ratio of milk and water
is to be1:2, then the amount of water to be further added is:
A. 55
B. 60
C. 50
D. 45

Answer: B

## D Watch Video Solution

11. Tea worth Rs 126 per kg and Rs 135 per kg are mixed with a third variety in the ratio
$1: 1: 2$. If the mixture is worth Rs 153 per kg ,
the prices of the third variety per kg will be
A. $R s 169.5$
B. $R s 170.0$
C. $R s 175.5$
D. $R s 180.0$

Answer: C

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12. A butler stole wine from a butt of sherry
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## - Watch Video Solution

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A. 24 L
B. 12 L
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14. A container is filled with liquid, 6 part of which are water 10 part milk. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half milk?

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\text { A. } \frac{1}{3}
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B. $\frac{1}{7}$
C. $\frac{1}{5}$
D. $\frac{1}{8}$

## Answer: C

## - Watch Video Solution

15. A container contains a mixture of two solution $A$ and $B$ in the ration of $7: 5$. When $9 L$
of mixture is drawn off and the container is
filled with $B$, the ratio of $A$ and $B$ becomes 7:9.

How many litres of solution A was contained by the container initially?
A. 10
B. 20
C. 21
D. 25

Answer: C
( Watch Video Solution
16. 60 kg of certain variety of rice at rs 32 per
kg is mixed with 48 kg of another variety of rice and the mixture is sold at he average price of rs 28 per kg.If there be no profit or loss due to the new sale price, then the price of the second variety of rice is

A. $R s 25.60 \mathrm{perkg}$

B. $R s 25 p e r k g$
C. $R s 23$ perkg
D. $R s 30 \mathrm{perkg}$

Answer: C
(D) Watch Video Solution

