



## MATHS

# BOOKS - ARIHANT SSC MATHS (HINGLISH)

# **MIXTURE OR ALLIGATION**



**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?



**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 ?



**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 ?



**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.

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**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 ? Watch Video Solution

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**8.** A mixture of a certain quantity of milk 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 ?

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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 ?

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**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 ?



**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 :8. find the quantity of water in the new

mixture.



**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 ?

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**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



**2.** IF the price of three types of rice are 480 576 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



**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 ? A. 1:10

B.1:5

C. 1: 20

D. 1: 15

Answer: C

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#### A. 0.92440972222222

#### B. 1.1764699074074

C. 0.5884375

D. 11:77:7

#### Answer: D

?

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**Exercise Base Level Questions** 

**1.** 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



**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 rs2.52 per kg?

A. 2:3 B. 3:2 C. 5:3

D. 3:4

Answer: D



**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



**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

D. 45 L

Answer: A

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**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

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**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



**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



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 kg, 10 kg

B. 40 kg, 15 kg

C. 40 kg, 12 kg

D. 40kg, 9 kg

#### Answer: A



**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

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**11.** 300g 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



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. 130g

D. 140 g

Answer: B

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**13.** 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



14. How many kilograms of tea worth Rs 25 perkg must be blended with 30kg of tea worth Rs30 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



**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 that 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



**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 L, Water = 60 L

B. Milk = 50 L, Water = 110 L

C. Milk = 70 L, Water = 90 L

D. Milk = 60 L, Water = 100 L

#### Answer: A



**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



**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

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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



**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



**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

## 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

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**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

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**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 kg, 10 kg

B. 40 kg, 15 kg

C. 40 kg, 12 kg

D. 40kg, 9 kg

Answer: A

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**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.** 300g 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. 130g

D. 140 g

Answer: B



**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



**30.** How many kilograms of tea worth Rs 25 per kg must be blended with 30kg 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, 15 kg

C. 32 kg

D. 42 kg

#### Answer: A



**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 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** 



**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 L, Water = 60 L

- B. Milk = 50 L, Water = 110 L
- C. Milk = 70 L, Water = 90 L
- D. Milk = 60 L, Water = 100 L

Answer: A

## **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



**2.** In a mixture of 60L 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



**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

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**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?

A. 
$$\frac{2}{3}$$
  
B.  $\frac{1}{3}$   
C.  $\frac{2}{5}$   
D.  $\frac{3}{5}$ 

Answer: A

**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

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**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?

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

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

## Answer: C

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**7.** A container contains a mixture of two liquid A and B in the ration of 7:5. When 9L 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



**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

 $\mathsf{B.}\,25 perkg$ 

 $\mathsf{C.}\,23 perkg$ 

D. 30 perkg

## Answer: C



**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



**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

Watch Video Solution

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A. Rs169.5

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 $\mathsf{C.}\, Rs175.5$ 

D. Rs180.0

Answer: C

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A. 
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B.  $\frac{1}{3}$   
C.  $\frac{2}{5}$   
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Answer: A

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

B. 
$$\frac{1}{7}$$
  
C.  $\frac{1}{5}$   
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## Answer: C

Watch Video Solution

**15.** A container contains a mixture of two solution A and B in the ration of 7:5. When 9L 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

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A. 10

B. 20

C. 21

D. 25

Answer: C

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A. Rs25.60 perkg

 $\mathsf{B.}\,Rs25 perkg$ 

 ${\sf C.}\,Rs23 perkg$ 

D. Rs30perkg



