

# BHARAT SCHOOL OF BANKING

## PROBLEMS BASED ON AGES

### Question 1

The difference of the ages of Ragu and Vimal is 21 years and the product of their age is 72 years. Find the ratio of the ages of Ragu and Vimal.

a)8:1 b)6:5 c)7:4 d)2:3

**Answer : a)8:1**

Solution :

Let a be the age of Ragu and b be the age of Vimal.

According to the question,

$$a - b = 21 \dots(1) \text{ and } ab = 72 \implies b = 72/a$$

Then (1) becomes,  $a - 72/a = 21$

$$a^2 - 72 = 21a$$

$$a^2 - 21a - 72 = 0$$

$$a^2 - 24a + 3a - 72 = 0$$

$$a(a-24) + 3(a-24) = 0$$

$$(a-24)(a+3) = 0$$

$$a = 24 \text{ or } a = -3$$

Since age cannot be a negative number, the age of Ragu will be 24 years.

Therefore  $b = 3$ .

Hence the age of Vimal is 3 years

Then the required ratio = Ragu / Vimal =  $24/3 = 8/1$

Hence the answer is 8:1

### Question 2

Five years ago, Karthick's age was twice that of his daughter's age and the present age of Karthick and his daughter is in the ratio of 11:6 respectively. What is Karthick's age ?

a) 55 b) 53 c) 57 d)54

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**Answer : a) 55**

Solution:

Let K be karthick's age and D be his daughter's age.

Five years ago,  $K-5 = 2(D-5)$

$$K - 2D = -5 \dots(1)$$

and their ages are in the ratio 11:6. i.e.,  $K/D = 11 / 6$

$$6K = 11D \implies K = 11D/6 \dots(2)$$

Sub.  $K = 11D / 6$  in (2)

$$(11D/6) - 2D = -5$$

$$11D - 12D = -30$$

$$-D = -30 \implies D=30$$

Thus, the age of her daughter is 30 years.

Now,  $K = 11 \times 30/6 = 55$  years

Hence the age of Karthick is 55 years.

### Question 3

The present age of Somu is half that of Ramu. After 5 years, the ratio of Somu's age to that of Ramu's age will be 6:11. Then the present age of Somu and Ramu will be

- a)20,40    b)25,50    c)30,60    d)35:45

**Answer: b) 25,50**

solution:

Let X be Somu's age, then Ramu's age will be 2X.

After 5 years their ages will be X+5 and 2X+5 respectively.

Given that the ratio(after 5 Years) is = 6:11

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$$\text{i.e., } 6/11 = X+5 / 2X+5 \implies 6(2X+5) = 11(X+5)$$

$$12X + 30 = 11X + 55$$

$$X = 55 - 30 = 25$$

$$\text{And } 2X = 50$$

Hence the ages of Somu and Ramu will be 25 and 50

### Question 4

Ragu is younger than his brother by 4 years. If 7:9 is the respective ratio of their present age, then the age of Ragu is:

- a) 12years b) 8years c) 14years d) 13years

**Answer : c) 14years**

Solution :

Let Ragu's age be X

Then his brother's age X + 4.

Given that their respective age ratio is 7:9

$$\text{i.e, } X / X+4 = 7/9$$

$$9X = 7(X+4)$$

$$2X = 28$$

$$X = 14$$

Hence, the age of Ragu is 14 years.

### Question 5

The ratio of the age of Hari to that of Charan is 6:7. If Hari is 4 years younger than Charan then what will be the ratio of the ages of Hari and Charan after 4 years?

- a) 7:8      b) 1:4      c) 2:6      d) 5:6

**Answer : a)7:8**

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Solution :

Ratio of the ages of Hari and Charan is 6:7.

Let the ages of Hari and Charan be  $6X$  years and  $7X$  years respectively.

Then  $7X - 6X = 4$  (since Hari is 4 years younger)

$$X = 4.$$

Now, the required ratio is  $6X+4 : 7X+4$

$$6(4)+4 : 7(4)+4 = 28 : 32$$

$$7 : 8$$

Hence the answer is 7 : 8

### Question 6

If 5:7 is the ratio of the present ages of Shahul and Ravi respectively. The difference between their ages is 6 years then what is the age of Shahul?

a) 15years b) 24years c) 17years d) 19years

**Answer : a) 15years**

Solution:

Let the present age of Shahul and Ravi be  $5X$  and  $7X$  respectively.

$$\text{Given that } 7X - 5X = 6$$

$$2X = 6 \Rightarrow X = 3$$

Then Shahul's present age is  $5X = 5(3) = 15$ .

Hence, the answer is 15 years.

### Question 7

The ratio of present ages of Mani and Dilip is 4:3, after 3 years Mani's age will be 39 years then the present age of Dilip is :

a) 20 years b) 27 years c) 23years d) 25years

**Answer : b) 27 years.**

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Solution:

Let the present ages of Mani and Dilip is  $4X$  and  $3X$  respectively.

After 3 years Mani's age is  $4X + 3$

$$4X + 3 = 39$$

$$4X = 36$$

$$X = 9.$$

Then the present age of Dilip is  $3X = 3(9) = 27$

Hence the answer is 27 years.

### Question 8

If 13:11 is the ratio of present age of Jothi and Viji respectively and 15:9 is the ratio between Jothi's age 4 years hence and Viji's age 4 years ago. Then what will be the ratio of Jothi's age 4 years ago and Viji's age 4 years hence ?

- a) 15:9    b) 9:15    c) 11:13    d) 13:11

**Answer : c) 11:13**

Solution :

Let the present age of Jothi and Viji be  $13X$  and  $11X$  respectively.

Given, Jothi's age 4 years hence and Viji's age 4 years ago in the ratio 15:9.

$$\text{That is, } \frac{13X + 4}{11X - 4} = \frac{15}{9}$$

$$9(13X + 4) = 15(11X - 4)$$

$$117X + 36 = 165X - 60$$

$$48X = 96$$

$$X = 2.$$

Now, required ratio is  $\frac{13X-4}{11X+4} = \frac{13(2)-4}{11(2)+4} = \frac{22}{26} = \frac{11}{13}$ .

Hence the answer is 11:13

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### Question 9

The ratio of present age of X and Y is 11:20 respectively. Seven years ago, X was  $\frac{5}{11}$  of Y in age. Find the difference between their present ages.

a) 15 b) 30 c) 22 d) 18

**Answer : d) 18**

Solution :

Let the ages of X and Y, 7 years ago be  $\frac{5a}{11}$  years and a years respectively.

Then,  $(\frac{5a}{11} + 7)/(a+7) = 11/20$

$20(\frac{5a}{11} + 7) = 11(a+7)$

$100a/11 + 140 = 11a + 77$

$21a = 693$

$a = 33$

Therefore, the difference between their present ages =  $(a+7) - (\frac{5a}{11} + 7) = 40 - 22 = 18$ .

### Question 10

If 25 is the sum of ages of X, Y and Z and if X is 17 years younger than Z who is thrice as old as Y. Then how old is Z?

a) 15 b) 18 c) 9 d) 12

**Answer : b) 18**

Solution :

Let Y's age be a.

Then Z's age is 3a.

And X's age = 3a-17.

Now,  $a + 3a + 3a-17 = 25$ .

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$$7a - 17 = 25.$$

$$7a = 25 + 17 = 42$$

$$a = 6.$$

Therefore, Z's age =  $3(6) = 18$ .

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