PROBLEMS ON AGES

Quick Tips and Tricks

- If the present age is y, then n times the present age = ny.
- If the present age is x, then age n years later/hence = x + n.
- If the present age is x, then age n years ago = x – n.
- The ages in a ratio a: b will be ax and bx.
- If the current age is y, then 1/n of the age is y/n.
- If sum of ages of x and y is A and ratio of their ages is p : q respectively, then u can determine age of y by using the formula shown below:

$$\text{Age of y} = \frac{\text{Ratio of y}}{\text{Sum of ratios}} \times \text{sum of ages}$$

$$\text{Age of y} = \frac{q}{(p+q)} \times A$$

What is John’s present age, if after 10 years his age will be 5 times his age 5 years back.

SOLUTION:

1) Let John’s present age be x

2) John’s age before 5 years = (x - 5)

3) John’s age after 10 years = (x + 10)

We are given that, John’s age after 10 years (x + 10) is 5 times his age 5 years back (x – 5)

Therefore,

$(x + 10) = 5 (x – 5)$

Solving the equation, we get

$x + 10 = 5x – 25$

$4x = 35$

$x = 8.75$ years

One year ago, ratio of Harry and Peter age's was 5 : 6 respectively. After 4 years, this ratio becomes 6 : 7. How old is Peter?

SOLUTION:

1) Harry's age = 5x and Peter's age = 6x

2) One year ago, their age was 5x and 6x. Hence at present, Harry's age = 5x +1 and Peter's age = 6x +1

3) After 4 years,

Harry's age = (5x +1) + 4 = (5x + 5)

Peter's age = (6x +1) + 4 = (6x + 5)

4) After 4 years, this ratio becomes 6 : 7. Therefore,

$$\frac{\text{Harry's Age}}{6} = \frac{\text{Peter's Age}}{7}$$

(5x + 5) / (6x + 5) = 6 / 7

7 (5x + 5) = 6 (6x + 5)

X = 5

Peter's present age = (6x + 1) = (6 x 5 + 1) = 31 years

Harry's present age = (5x + 1) = (5 x 5 + 1) = 26 years

The age of Rekha is twelve times that of her daughter Avani. If the age of Avani is 3 years, what is the age of Rekha?

Rekha’s present age = x

Rekha’a age is 12 times her daughter’s age.

Daughter’s age = 3. Therefore, 12 times of 3 = x

12 x 3 = x
= 36 years = Rekha’s age.

At present, the ratio betwen the ages of Amar and Ravi is 4:3. After 6 years, Amar’s age will be 26 years. What is the age of Ravi at present?

they have also have given the ration of present ages, 4:3.

So we can use ‘x’ to denote both their present ages to be 4***x*** and 3***x***, i.e., Amar’s and Ravi’s respectively.

Next, ‘Amar’s age 6 years later’, = (4***x*** + 6) = 26.
x = 5 years.

Ravi’s present age =

3***x*** = 3 x 5 = 15 years.

The ratio of present age of Asha and Bikash is 2 : 4 the present age of Asha is 30 years. What would be the age of Bikash after 6 years?

Step 1: Asha : Bikash present age ratio is 2 : 4 and Asha's present age = 30 years.

Step 2: Bikash's present age is 30 x 4 / 2 = 60 years.

Step 3: Bikash's age after 6 years is 60 + 6 = 66 years.

Sarah got married 8 years ago. Today her age is 1 2/7th times her age at the time of her marriage. At present her daughter's age is 1/6th of her age. What was her daughter's age 3 years ago?

Let present age of Sarha be x. At present, his age is $9/7^{th}$ of the age when she got married and it's been 8 years since she got married. Therefore, her age would be x – 8 when she got married and her present age is 9/7(x – 8). Also, currently her daughter's age is $1/6^{th}$ of her. Let the present age of her daughter be y.

The final equations are

x = 9/7* (x – 8)

y = x/6

Solving the first equation, we get age of Sarah = 36 years.

Hence her daughter's present age is 6 years but we need her age 3 years back. So, she would have been 3 years old.

Sana is 60 years old and Santosh is 80 years old. How many years ago was the ratio of their ages 4 : 6?

How many **years ago** the ratio of their ages was 4 : 6

Let us assume x years ago

At present: Sana is 60 years and Santosh is 80 years

x years ago: Sana's age = (60 – x) and Santosh's age = (80 – x)

Ratio of their ages x years ago was 4 : 6

$$\frac{(60 - x)}{(80 - x)} = \frac{4}{6}$$

$6(60 - x) = 4(80 - x)$

$360 - 6x = 320 - 4x$

$x = 20$

Therefore, 20 years ago, the ratio of their ages was 4 : 6

The ratio of ages of Amir and Salman is at present 3 : 4. 5 years before that ratio was 2 : 3.

What is the present age of Amir and Salman?

Step 1: Amir : Salman present ratio is 3 : 4

Step 2: 5 years before ratio was 2 : 3

Step 3: 5 x 3 = 15 years, 5 x 4 = 20 years.

So, the present age of Amir and Salman is 15 years and 20 years.

Presently, the ratio of the ages of Chintu and Mintu is 7: 12. Two years ago, the ratio was 3:8. Find their current ages.

Present ratio = 7: 12. Actual ages are 7x and 12x.

$\therefore (7x - 2) / (12x - 2) = 3/8$

$\Rightarrow x = 0.5.$

So actual ages are 7(0.5) = 3.5 years and

12 (0.5) = 6 years.