

PROBLEMS ON AGES

1. If the current age is x , n times the age is $n x$.
2. If the current age is x , age n years later/hence = $x + n$.
3. If the current age is x , age n years ago = $x - n$.
4. The ages in a ratio $a : b$ will be ax and bx .
5. If the current age is x , then $1/n$ of the age is x / n .

Problems with solutions

1. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

Solution

Let the ages of children be x , $(x + 3)$, $(x + 6)$, $(x + 9)$ and $(x + 12)$ years.

Then, $x + (x + 3) + (x + 6) + (x + 9) + (x + 12) = 50$

$$5x = 20$$

$$x = 4.$$

Age of the youngest child = $x = 4$ years.

2. A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, then how old is B?

Solution

Let C's age be x years. Then, B's age = $2x$ years. A's age = $(2x + 2)$ years.

$$(2x + 2) + 2x + x = 27$$

$$5x = 25$$

$$x = 5.$$

Hence, B's age = $2x = 10$ years.

3. Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?

Solution

Let the present ages of Sameer and Anand be $5x$ years and $4x$ years respectively.

$$\text{Then, } \frac{5x + 3}{4x + 3} = \frac{11}{9}$$

$$9(5x + 3) = 11(4x + 3)$$

$$45x + 27 = 44x + 33$$

$$45x - 44x = 33 - 27$$

$$x = 6.$$

Anand's present age = $4x = 24$ years.

4. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of his son is:

Solution

Let the son's present age be x years. Then, man's present age = $(x + 24)$ years.

$$(x + 24) + 2 = 2(x + 2)$$

$$x + 26 = 2x + 4$$

$$x = 22.$$

5. The present ages of three persons in proportions 4 : 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages (in years).

Solution

Let their present ages be $4x$, $7x$ and $9x$ years respectively.

$$\text{Then, } (4x - 8) + (7x - 8) + (9x - 8) = 56$$

$$20x = 80$$

$$x = 4.$$

Their present ages are $4x = 16$ years, $7x = 28$ years and $9x = 36$ years respectively.