

Formulas For Ages

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

Important concepts on problems on ages.

Concept 1:

x years ago the age of A was n_1 times the age of B, and at present A's age is n_2 times that of B, then;

A's current = $\frac{(n_1 - 1)n_2x}{n_1 - n_2}$ years,

and B's current age = $\frac{(n_1 - 1)x}{(n_1 - n_2)}$ years.

Concept 2:

The present age of A is n_1 times the present age of B. After x years, age of A becomes n_2 times the age of B, then;

$$A's \text{ current} = \frac{(n_2 - 1)n_2 n}{(n_1 - n_2)} \text{ years.}$$

$$\text{and, } B's \text{ current age} = \frac{(n_2 - 1)n}{(n_1 - n_2)} \text{ years}$$

Questions and answers

- 1] Saina Nehwal is 8 years older than her cousin. Her cousin is 24 years younger than his mother. If the ratio between the ages of Saina and her cousin's mother is 7:11. What will be the age of Saina's cousin after 3 years?

A. 21 years

B. 20 years

C. 26 years

D. 23 years

Ans: 23 years

Let the age of Saina = x ,
her cousin's age = $x - 8$,
cousin's mother age =

$$x - 8 + 24 =$$

$$x = 28$$

$$= 28 - 8 = 20$$

$$20 + 3 = \boxed{23}$$

2] Tiger's present age is acquired if we subtract 9 years from Arav's present age and divide the remainder by 14. If Mohan's age is 8 year and he is 3 year old to Arav, then find Tiger's present age

A. 42

B. 79

C. 77

D. 85

Ans = 79 years

$$= \frac{x - 9}{14} = 5$$

$$x - 9 = 70$$

$$x = 79 \text{ years}$$

Tiger's present is 79 years

Tricks to solve Age Question

Type 1: problems on Ages
Based on present ages

In the next 6 years, C will be double the age of D. 6 years back, if C is 5 years elder to D, then find D's present age.

A. 32 B. 25 C. 23 D. 20

Ans C. 23

Let D's present age be x

Given $(x + 5) = C$'s age

$$(x + 5) + 6 = 2(x - 6)$$

$$= x + 11 = 2x - 12$$

$$x = 23$$

Type: 2.

Problems based on Age Before k years.

Vikram said to his daughter, "I was as old as you are today when you were born". If Vikram's age is 45 today, then his daughter's age 3 years ago was?

A) 22 B) 19.5 C) 23.5 D) 21.5

Ans B) 19.5

Let Vikram's daughter age = z
given:

$$45 - z = z$$

$$2z = 45, z = 22.5$$

So, 3 years ago, daughter's age will be $22.5 - 3 = 19.5$