

Five years ago, A was thrice as old as B and ten years later A shall be twice as old as B. What are the present ages of A and B? [CBSE 2002C]

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Let the present ages of B and A be x years and y years respectively. Then,

B's age 5 years ago = $(x - 5)$ years

and A's age 5 years ago = $(y - 5)$ years.

$$\therefore (y - 5) = 3(x - 5) \Rightarrow 3x - y = 10. \quad \dots (i)$$

B's age 10 years hence = $(x + 10)$ years.

A's age 10 years hence = $(y + 10)$ years.

$$\therefore (y + 10) = 2(x + 10) \Rightarrow 2x - y = -10. \quad \dots (ii)$$

On subtracting (ii) from (i), we get $x = 20$.

Putting $x = 20$ in (i), we get

$$(3 \times 20) - y = 10 \Rightarrow y = 60 - 10 = 50.$$

$$\therefore x = 20 \text{ and } y = 50.$$

Hence, B's present age = 20 years

and A's present age = 50 years.

A man's age is three times the sum of the ages of his two sons. After 5 years, his age will be twice the sum of the ages of his two sons. Find the age of the man.

[CBSE 2003]

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Let the present age of the man be x years and the sum of the present ages of his two sons be y years. Then,

$$x = 3y \Rightarrow x - 3y = 0. \quad \dots (i)$$

Man's age after 5 years = $(x + 5)$ years.

Sum of the ages of his two sons after 5 years = $(y + 5 + 5)$ years
= $(y + 10)$ years.

$$\therefore (x + 5) = 2(y + 10) \Rightarrow x - 2y = 15. \quad \dots (ii)$$

On subtracting (i) from (ii), we get $y = 15$.

Putting $y = 15$ in (i), we get $x = 45$.

$$\therefore x = 45 \text{ and } y = 15.$$

Hence, the present age of the man is 45 years.

Five years hence, a man's age will be three times the age of his son. Five years ago, the man was seven times as old as his son. Find their present ages.

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Two years ago, a man was five times as old as his son. Two years later, his age will be 8 more than three times the age of his son. Find their present ages.

[CBSE 2008]

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If twice the son's age in years is added to the father's age, the sum is 70. But, if twice the father's age is added to the son's age, the sum is 95. Find the ages of father and son.

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The present age of a woman is 3 years more than three times the age of her daughter. Three years hence, the woman's age will be 10 years more than twice the age of her daughter. Find their present ages.

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The length of a room exceeds its breadth by 3 metres. If the length is increased by 3 metres and the breadth is decreased by 2 metres, the area remains the same. Find the length and the breadth of the room.

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The area of a rectangle gets reduced by 8 m^2 , when its length is reduced by 5 m and its breadth is increased by 3 m . If we increase the length by 3 m and breadth by 2 m , the area is increased by 74 m^2 . Find the length and the breadth of the rectangle.

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The area of a rectangle gets reduced by 67 square metres, when its length is increased by 3 m and breadth is decreased by 4 m. If the length is reduced by 1 m and breadth is increased by 4 m, the area is increased by 89 square metres. Find the dimensions of the rectangle.

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