



Exercise 3E

Question 27:

Let the present ages of the man and his son be x years and y years respectively.

Then,

Two years ago:

$$(x - 2) = 5(y - 2)$$

$$x - 2 = 5y - 10$$

$$x - 5y = -8 \text{ ---(1)}$$

Two years later:

$$(x + 2) = 3(y + 2) + 8$$

$$x + 2 = 3y + 6 + 8$$

$$x - 3y = 12 \text{ ---(2)}$$

Subtracting (2) from (1), we get

$$-2y = -20$$

$$y = 10$$

Putting $y = 10$ in (1), we get

$$x - 5 \times 10 = -8$$

$$x - 50 = -8$$

$$x = 42$$

Hence the present ages of the man and the son are 42 years and 10 respectively.

Question 28:

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

Five years ago:

$$(x - 5) = 3(y - 5)$$

$$x - 5 = 3y - 15$$

$$x - 3y = -10 \text{ ---(1)}$$

Ten years later:

$$(x + 10) = 2(y + 10)$$

$$x + 10 = 2y + 20$$

$$x - 2y = 10 \text{ ---(2)}$$

Subtracting (2) from (1), we get

$$y = 20$$

Putting $y = 20$ in (1), we get

$$x - 3y = -10$$

$$x - 3 \times 20 = -10$$

$$x = -10 + 60 = 50$$

$$x = 50, y = 20$$

Hence, present ages of A and B are 50 years and 20 years respectively.

Question 29:

Let the present ages of woman and daughter be x and y respectively.

Then,

Their present ages:

$$x = 3y + 3$$

$$x - 3y = 3 \text{ ---(1)}$$

Three years later:

$$(x + 3) = 2(y + 3) + 10$$

$$x + 3 = 2y + 6 + 10$$

$$x - 2y = 13 \text{ ---(2)}$$

Subtracting (2) from (1), we get

$$y = 10$$

Putting $y = 10$ in (1), we get

$$x - 3 \times 10 = 3$$

$$x = 33$$

$$x = 33, y = 10$$

Hence, present ages of woman and daughter are 33 and 10 years.

***** END *****