

Problems on Ages-1

Q1. (Raman's age after 15 years will be 5 times his age 5 years back) What is her present age.

- (1) 5 years (2) 10 years (3) 15 years (4) 20 years.

$$\text{Raman present} = \textcircled{R} \checkmark$$

$$\text{after 15 years} = \underline{(R+15)}$$

$$W(R+15) = 5(R-5)$$

$$\text{5 year back/bf/ago} = \textcircled{(R-5)} \checkmark$$

$$\Rightarrow R+15 = 5R-25$$

$$15+25 = 5R-R$$

$$1040 = 4R$$

$$\boxed{R=10}$$

Concept

$$\text{5 year ago/bf} = 20-5 = 15 \checkmark$$

$$\text{Present age} = 20 \checkmark$$

$$\begin{aligned} \text{5 year hence/5 year after} \\ = 20+5 = 25 \end{aligned}$$

$$\text{5 year ago/bf} = (x-5) \checkmark$$

$$\underline{\text{Present} = x} \checkmark$$

$$\begin{aligned} \text{5 year hence/after} \\ = \underline{(x+5)} \end{aligned}$$

Q2. Rahul was 4 times old as his son 8 years back and he will be 2 times old as his son after 8 years. Calculate Rahul and his son's age.

Rahul present = $R = 40$

8 year back = $(R-8)$

Son present = $S = 16$

8 year back = $(S-8)$

$$= (R-8) = 4 \times (S-8)$$

$$\Rightarrow R-8 = 4S-32$$

$$\Rightarrow R-4S = -32+8 = -24$$

$$\Rightarrow \boxed{R-4S = -24} \quad (1)$$

$$R-2S = 8$$

$$40-2S = 8$$

$$2S = 32$$

$$\boxed{S = 16}$$

after 8 years.

$$\text{Rahul} = (R+8)$$

$$\text{Son} = (S+8)$$

$$= (R+8) = 2(S+8)$$

$$= R+8 = 2S+16$$

$$\Rightarrow R-2S = 16-8 = 8$$

$$R-2S = 8 \quad -(2) \times 2$$

$$2R-4S = 16$$

$$\begin{array}{r} 2R-4S = 16 \\ - R-4S = -24 \\ \hline \end{array}$$

$$R = 40$$