Aptitude Shortcuts and Mind Tricks for Age Related Problems Type-III

QUESTION:

The ratio of Gaurav's and Sachin's ages are 6:7 respectively. Five years hence, this ratio would become 7:8. How old is Sachin?

GIVEN:

Present ratio of Gaurav's and Sachin's ages = **6:7**

Ratio of ages **after 5yrs** = **7:8**

SOLUTION:

NORMAL METHOD:

Let Gaurav's and Sachin's present ages be 6x and 7x respectively

Gaurav's age **5yrs from now** = (6x+5) yrs

Sachin's age **5yrs from now** = (7x+5) yrs

Therefore, $$\frac{6x + 5}{7x + 5} = \frac{7}{8}$$

8(6x+5) = 7(7x+5)

48x+40 = 49x+35

49x-48x = 40-35

x = 5

Hence, **Sachin's present age** is = 7x = 7×5 = **35yrs**

If asked **Sachin's age after 5yrs**, then = 7x + 5 = 35+5 = **40yrs**

SHORT-CUT METHOD:

$$\frac{6x + 5}{7x + 5} = \frac{7}{8} \circlearrowright -$$

Subtract the numerator and denominator of the right hand side **(RHS)** of the above equation.

[8 – 7 = 1]

Multiply this **difference** with the **number of years** given in the equation i.e., 5yrs here

[5 × 1 = 5]

Therefore, **RHS = 5**

To find the left hand side **(LHS)** of the equation, **cross multiply** the ratios of present year and 5yrs hence and take the **difference**.

$$\frac{6x + 5}{7x + 5} \times = \frac{7}{8}$$

[7 × 7x] – [8 × 6x] = 49x – 48x = x

LHS = x

We already find the **RHS=5,** now substitute **LHS** and **RHS**

Therefore, **x = 5**

Sachin's present age is [7×5] = **35yrs**

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Aptitude Shortcuts and Mind Tricks for Age Related Problems- Type-II

Aptitude Shortcuts and Mind Tricks for Age Time and Distance Problems