

Mathematics for competitive examination , age problem solve

1. The ages of A and B are in the ratio of 5:4. Three years hence the ratio of their ages will become 11:9. What is the present age of B?

A. 24

B. 30

C. 50

D. 80

Age of A and B 5:4

Let's $A = 5x$
 $B = 4x$

3 years after will be 11:9

So, $\frac{5x+3}{4x+3} = \frac{11}{9}$

$45x + 27 = 44x + 33$

$45x - 44x = 33 - 27$

$x = 6$

So present age $A = 5 \times 6 = 30$
 $B = 4 \times 6 = 24$

2. The ratio of the ages of a father and his son 10 years hence will be 5:3, while 10 years ago, it was 3: 1. The ratio of the age of the son to that of his father today, is (S.S.C. 2006)

(a) 1:2

(b) 1:3

(c) 2:3

(d) 2:5

$\frac{3x+20}{x+20} = \frac{5}{3}$

$9x + 60 = 5x + 100$

$9x - 5x = 100 - 60$

$4x = 40$

$x = 10$

10 year hence 50, 30

$\frac{40}{20} = \frac{5}{3}$ ← 10 years ago
 $2:1$

∴ Ans = $\frac{3}{2}$

3. X is 36 years old and Y is 16 years. old as Y? In how many years will X be twice as (M.C.A. 2005)

- (a) 1 year
- (b) 2 years
- (c) 3 years
- (d) 4 years

$$\begin{aligned}x &= 36 \\y &= 16 \\x + 36 &= 2(16 + x) \\x + 36 &= 32 + 2x \\x - 2x &= 32 - 36 \\-x &= -4 \\x &= 4\end{aligned}$$

\therefore 4 years later will be twice

4. The sum of the ages of five children born at the intervals of 3 years each, is 50 years. What is the age of the youngest child? (S.S.C. 2000)

- (a) 4 years
- (b) 8 years
- (c) 10 years
- (d). None of these

Let the youngest = x

$$\begin{aligned}x + (x+3) + (x+6) + (x+9) + (x+12) &= 50 \\5x + 30 &= 50 \\5x &= 20 \\x &= 4\end{aligned}$$

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