

$$20 + 5 = 25$$

$$20 - 10 = 10$$

$$n + 5 = n + 5$$

$$(n - 10)$$

AGE

1) Seven years ago, the ratio of the ages of A and B was 4: 5. Eight years hence, the ratio of the ages of A and B will be 9: 10. What is the difference between their present ages in years?

A3

$A = 4K$ $B = 5K$	Present $4K + 7$ $5K + 7$	8 years hence $\frac{4K + 15}{5K + 15} = \frac{9}{10}$ $4K + 15 = 40K + 10$ $5K = 15$ $K = 3$
----------------------	---------------------------------	---

B2

Difference $= 5K - 4K$

C4

7 years ago $\rightarrow 4:5$
+ 8 years $\rightarrow 9:10$

D6

$5 \rightarrow 15$
 $1 \rightarrow 3$

$15 \times \frac{1}{5} = 3$

2) The present ages of A and B are in the ratio 3:4. Twelve years ago, their ages were in the ratio 2:3. The sum of the present ages of A and B (in years) is:

A72

B60

C84

D48

12 years ago 2:3

Present 3:4

$12 \times \frac{7}{1} = 84$

$1 \rightarrow 12$
 $2 \rightarrow 17 \times 7$

3) Eight years ago, the ratio of the ages of A and B was 4:5 and the ratio of their ages, 12 years hence, will be 13: 15. The present age (in years) of B is:

A52

B46

8 years ago $\rightarrow 4:5$
+ 12 years $\rightarrow 13:15$

$4 \times 10 = 40$

$20 \times \frac{10}{5} = 40$

4818

C 48

D 56

4) Ratio of the present age of a mother to that of the daughter is 7:1. After 5 years the ratio will become 4:1. What is the difference (in years) in their present ages?

A 29

B 30

C 28

D 31

$$\begin{aligned}
 P &= 7:1 = 6 \\
 S(+5) &= 4:1 = 3 \times 2 \\
 &= 8:2
 \end{aligned}$$

$$5 \times \frac{6}{1} = 30$$

5) The average age of Akhil and Sunita is 51 years, of Sunita and Veena is 31 years, and that of Veena and Akhil is 33 years. The age of Veena is:

A 13 years

B 49 years

C 53 years

D 17 years

$$A + S = 51 \times 2 = 102$$

$$S + V = 31 \times 2$$

$$V + A = 33 \times 2$$

$$2(A + V + S) = 2(51 + 31 + 33)$$

$$A + V + S = 115$$

$$A + S = 110$$

$$\begin{aligned}
 AV &= \frac{\text{Sum}}{\text{No}} \\
 \text{Sum} &= AV \times \text{No}
 \end{aligned}$$

$$V = 13$$

6) Twelve years ago, the ratio of the ages of Anil and Bishu was 5:12. Eight years from now, the ratio of their ages will be 10:17. What is the ratio of the present ages of Anil and Bishu?

	A	B
12 (-)	5	12
8 (+)	10	17

A 9:16

B 8:15

C 5:8

D 7:13

$$A: 20 \times \frac{5}{5}$$

$$B = 48$$

$$A : B$$

$$\begin{array}{r} 20 \\ +12 \\ \hline 32 \\ 8 \end{array} : \begin{array}{r} 48 \\ +12 \\ \hline 60 \\ 15 \end{array}$$

7) Vineeth is younger than Vinoth by 8 years. If 4 years ago, their ages were in the ratio of 1:2, then the present age of Vinoth is: _____

A 28 years

B 22 years

C 20 years

D 25 years

$$4 \ominus \quad V_i : V_{in}$$

$$\begin{array}{r} 1 \\ 8 \end{array} : \begin{array}{r} 2 \\ 16 \end{array}$$

$$8 \times \frac{1}{1}$$

$$\begin{array}{r} 16 \\ +4 \\ \hline 20 \end{array}$$

6) Seven years ago, the ratio of the ages of A and B was 2:3. Three years hence, the ratio of their ages will be 5:7. The sum of their present ages (in years) is:

A 114

B 118

C 112

$$\begin{array}{l} 7 \ominus \\ 3 \oplus \end{array} \quad \begin{array}{l} A : B \\ 2 : 3 = 1 \\ 5 : 7 = 2 \end{array}$$

$$A+B=10$$

$$10 \times \frac{10}{1} = 100$$

$$100 + 14 = 114$$

D 110

11) If A is one third of B, B is twice of C, D is two-third of A and the average of A, B, C and D is 74, then the difference between A and C is:

$$\begin{array}{r} A \quad B \quad C \\ 1 \quad 3 \quad 2 \\ \hline 2 : 6 : 3 \end{array}$$

$$A : B = 1 : 3$$

$$B : C = 2 : 1$$

$$A : D = 3 : 2$$

B 26

$$\begin{array}{c} D \quad A \quad B \quad C \\ 1 \quad 1 \quad 3 \quad 3 \\ -2 \quad -2 \quad 2 \quad 1 \\ \hline 2 \quad 3 \quad 3 \quad 2 \end{array}$$

C 28

$$\begin{array}{r} 2 \\ 74 \times \frac{3}{4} \\ \hline 55.5 \\ 2 \times 3 \times 4 \\ = 24 \end{array}$$

D 24

$$4 : 6 : 18 : 9 \quad \text{AV} = \frac{37}{4}$$

12) The average age of two persons 5 years ago was 7.5 years. Find their average age after 5 years.

A 18 years

$$SE \quad AV \quad 7.5$$

$$S \oplus$$

B 17.5 years

$$7.5 + 10 = 17.5$$

C 18.5 years

D 17 years

13) Three years ago, the average age of A, B and C was 29 years. If the average age of B and C, 5 years ago, was 23 years, then what is the present age (in years) of A?

A 49

$$3 \oplus \quad A + B + C = 29 \times 3 = 87$$

$$\text{Present Age} = 87 + 9 = 96$$

$$5 \text{ E } B + C = 23 \times 2$$

$$= 46$$

$$\text{Present Age} = 46 + 10 = 56$$

B 40

C 46

$$A = 96 - 56 = 40$$

D 50

14). The total of the ages of Jayant, Prem and Saransh is 93 years. Ten years ago, the ratio of their ages was 2:3:4. What is the present age of Saransh?

$$J + P + S = 93$$

$$\downarrow \quad \downarrow \quad \downarrow$$

A. 44 years

B. 36 years

C. 33 years

D. 38 years

$$10 - \begin{matrix} 2x & 3x & 4x \end{matrix} \rightarrow \begin{matrix} 4x + 7 = 28 \\ +10 \\ \hline 38 \end{matrix}$$

$$9x + 30 = 93$$

$$9x = 63$$

$$x = 7$$

15) Hitesh is 40 years old and Ronnie is 60 years old. How many years ago was the ratio of their ages 3:5?

A. 5 years

B. 10 years

C. 20 years

D. 25 years

$$H = 40$$

$$R = 60$$

$$\frac{40 + t}{60 + t} = \frac{3}{5}$$

$$t = 10$$

$$\begin{matrix} H & R \\ P & 40 & 60 = 20 \\ +10 & 3 & 5 = 2 \times 10 \\ & 30 & 50 \end{matrix}$$

16) Ten years ago, A was half of B in age. If the ratio of their present ages is 3:4, what will be the total of their present ages?

$$A : B$$

$$10 \text{ E }$$

$$1 : 2$$

$$+2 \quad +2$$

P

$$3 : 4$$

$$10 \times \frac{7}{2}$$

A. 21 years

B. 37 years

C. 42 years

D. None of these

17) The age of father 10 years ago was thrice the age of his son. Ten years hence, father's age will be twice that of his son. The ratio of their present ages is:

A. 1:2

B. 7:3

C. 5:2

D. 3:4

Handwritten solution for Question 17:

Let F be Father's age and S be Son's age.

10 years ago: $F - 10 = 3(S - 10)$

10 years hence: $F + 10 = 2(S + 10)$

Subtracting the first equation from the second:

$$(F + 10) - (F - 10) = 2(S + 10) - 3(S - 10)$$

$$20 = 2S + 20 - 3S + 30$$

$$20 = -S + 50$$

$$S = 30$$

Substituting S = 30 into the first equation:

$$F - 10 = 3(30 - 10)$$

$$F - 10 = 60$$

$$F = 70$$

Ratio of present ages: $F : S = 70 : 30 = 7 : 3$

18) The ages of two persons differ by 16 years. 6 years ago, the elder one was 3 times as old as the younger one. What are their present ages of the elder person

A. 10

B. 20

C. 30

Handwritten solution for Question 18:

Let A be the age of the elder person and B be the age of the younger person.

Age difference: $A - B = 16$

6 years ago: $A - 6 = 3(B - 6)$

Subtracting the first equation from the second:

$$(A - 6) - (A - B) = 3(B - 6) - 16$$

$$-6 + B = 3B - 18 - 16$$

$$-6 + B = 3B - 34$$

$$28 = 2B$$

$$B = 14$$

Substituting B = 14 into the first equation:

$$A - 14 = 16$$

$$A = 30$$

Present ages: Elder person is 30, Younger person is 14.

D. 40

19) Sachin is younger than Rahul by 7 years. If the ratio of their ages is 7:9, find the age of Sachin

A. 23.5

B. 24.5

C. 25.5

D. 26.5

$$R : S$$

$$7 \times \frac{7}{2} = \frac{49}{2} = 24.5$$

20) The average age of a man and his son is 48 years. The ratio of their ages is 11:5. What will be the ratio of their ages after 6 years?

A. 6:5

B. 2:1

C. 2:3

D. 3:1

$$M + S = 48 \times 2$$
$$96$$

$$11 \rightarrow 96$$

$$1 \rightarrow 6$$

$$11 \rightarrow 66$$

$$5 \rightarrow 30$$

$$F : S$$
$$66 : 30$$
$$+6 : +6$$

$$72 : 36$$
$$2 : 1$$

21) In a family the average age of the father and mother is 38 years, whereas the average age of father, mother and only daughter is 28 years. The age of daughter is

a) 5 years

b) 6 years

$$F + M = 38 \times 2$$
$$76$$

$$F + M + D = 28 \times 3$$
$$84$$

$$D = 8$$

~~c) 8 years~~

d) 10 years

e) None of these

22) The average age of a man and his son is 54 years. The ratio of their ages is 23: 13. What will be the ratio of their ages after 6 years.

$$M + S = 54 \times 2$$

$$104$$

$$36$$

$$36 - 104$$

$$1 -$$

a) 10:7

b) 5:3

c) 4:3

d) 3:2

e) None of these