

Q1. The age of Arvind's father is 4 times his age. 10 years ago Father's age was 7 times of age of his son at that time; what is Arvind & Father's present age?

Ans: Let son age = x & father age?

$$\text{Father age} = 4x.$$

Then,

5 years ago.

$$4x - 5 \leftarrow x - 5$$

Then, according to question,

$$\text{or, } 4x - 5 = 7(x - 5)$$

$$\text{or, } 4x - 5 = 7x - 35$$

$$\text{or, } -5 + 35 = 7x - 4x$$

$$\text{or, } 30 = 3x$$

$$x = 10.$$

∴ Arvind Father present age = $4x = 40$ yr.

3) 40 yrs. agy

Q2. The age of Ramesh is four times the age of Surendra. After ten years, the age of Ramesh will be only twice the age of Surendra. Find the present age of Surendra.

Ans: Let age of Surendra = x &

then age of Ramesh = $4x$.

After 10 yr.

$$\text{Age of Surendra} = x + 10 \leftarrow$$

$$\text{Ramesh age} = 4x + 10.$$

Then, according to qn,

$$\text{or, } 4x + 10 = 2(x + 10)$$

$$\text{or, } 4x - 2x = -20 + 10$$

$$\text{or, } 2x = 10$$

$$x = 5.$$

4) 5 yrs. agy

Q3 10 yrs ago m's mother was 4 times older than her daughter. After 10 yrs, the mother will be twice older than daughter. The present age of m & d.

Ans Let her daughter age = x & m's mother age = y .

$$\text{Mother age} = \text{my} \quad \cancel{\text{10 yrs old}} + 10 \text{ yrs age}$$

$$\Rightarrow \cancel{y-10}$$

~~10 yrs old~~

$$\text{On } y - 10 = 4(x - 10)$$

$$\text{Or, } y - 10 = 4x - 40.$$

$$\text{Or, } y - 4x = -30$$

$$\text{Or } y = 4x - 30 \quad \text{--- (1)}$$

* After 10 years,

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

$$\text{Or, } y + 10 = 2x + 20.$$

$$\text{Or, } y - 2x = 20 - 10$$

$$y - 2x = 10$$

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

$$\text{On } 4x - 30 = 2x + 10$$

$$\text{Or, } 2x = 40$$

$$x = 20 \text{ yrs}$$

3) 20 yrs. qn

Q4 14 yrs ago Ram was 4 times age of Pankaj.

Q5 If present age of Ram is twice age of Pankaj what will be the total of their present ages.

Ans Let Ram age = y &

Pankaj age = x .

Then, 14 years ago,

$$y - 14 = 4(x - 14)$$

$$y - 14 = 4x - 56$$

$$y = 4x - 42 \quad \text{--- (1)}$$

In present,

$$y = 2x - 10$$

then,

$$\text{or}, y_2 - y_1 = 2x$$

$$\text{or } 2x = 42$$

$$x = 21 \text{ then,}$$

$$y = 2x = 2 \times 21 = 42$$

$$\therefore \text{Total of their age} = 42 + 21 = 63 \text{ yrs.}$$

2) 63 yrs.

Q5 At present age of father is 3 times age of his son, 9 years hence the father's age would be twice that of his son. What is sum of the present age of father and son?

Ans Let son age be x at present.

Father age is y . At present,

$$y = 3x - 10$$

* 9 years hence

$$\text{or } y + 9 = 3(x + 9)$$

$$\text{or } y + 9 = 3x + 27$$

$$\text{or }, y = 2x + 18 - 10$$

then,

$$3x = 2x + 9$$

$$x = 9 \text{ (Son age)}$$

$$\therefore \text{Father age} = 3x = 3 \times 9 = 27$$

$$\therefore \text{sum of age} = 27 + 9 = 36 \text{ yrs.}$$

1) 36 yrs.

Q6 The sum of ages of father & a son is 50 yrs. Also, 5 years ago, the father's age was 7 times the age of son. The present age of father & son respectively,

Ques: A father's son age is x and Father's age is y .

Condn 1,

$$x+y = 50$$

$$y = 50-x \quad \text{---(1)}$$

Condn 2,

$$\text{on } y-5 = 7(x-5)$$

$$\text{on } y-5 = 7x-35$$

$$y = 7x-30 \quad \text{---(2)}$$

$$\text{on } 50-x = 7x-30$$

$$\text{or } x = 10 \text{ (son age) yr.}$$

Then, father's age is,

$$y = 50-x = 50-10 = 40 \text{ yrs.}$$

2) 40 yrs, 10 yrs.

Ques: Sum of ages of son & father is 56 yrs. After 4 years, the age of father will be 3 times that of son. Their ages resp are:

Ans: Let son age = x & Father age be y .

$$x+y = 56$$

$$y = 56-x \quad \text{---(1)}$$

X AFTER 4 yrs,

$$y+4 = 3(x+4)$$

$$\text{on } y+4 = 3x+12$$

$$\text{on } y = 3x+8 \quad \text{---(2)}$$

$$\text{on } 56-x = 3x+8$$

$$\text{or } 56-8 = 4x$$

$$\text{or, } 48 = 4x$$

$$12 = 12 \text{ yrs (son age)}$$

$$\therefore y = 56-12 = 56-12 = 44 \text{ yrs.}$$

1) 12 yrs, 44 yrs any

Q8, The ratio of ages of father & son at present is $6:1$. After 5 yrs, the ratio will become $7:2$. The present age of son is.

Ans, Let father & son's ages be $6x$ & x .

+ After 5 yrs,

$$\text{or}, \frac{6x+5}{x+5} = \frac{7}{2}$$

$$\text{or}, 12x+10 = 7x+35$$

$$\text{or} \quad 5x = 25$$

$$x = 5 \text{ yrs (son age)}$$

4) 5 yrs any

Q9, The ratio of ages of A & B at present is $4:3$. 10 yrs earlier, the ratio was $3:2$, then find present ages of A & B (in years).

Ans, Let ratio of age of A & B is $4x$ & $3x$.

+ 10 years earlier,

$$\text{or} \quad \frac{4x-10}{3x-10} = \frac{3}{2}$$

$$\text{or} \quad 8x - 20 = 9x - 30$$

$$\text{or}, -20 + 30 = 9x - 8x$$

$$\text{or}, 10 = x$$

Then, present age of A & B is,

$$= 4x : 3x$$

$$= 4x10 : 3x10$$

$$= 40 : 30$$

1) 40:30.

Q10, The ratio of ages of A & B at present is $5:3$.

After 7 years the ratio will becomes $3:2$.

What is sum of present ages of A & B?

Q1 Let present ages of A & B be's $5x$ & $3x$.
 * After seven yrs.

$$\text{Or}, \frac{5x+7}{3x+7} = \frac{3}{2}$$

$$\text{Or}, 10x + 14 = 9x + 21$$

$$\text{Or}, x = 21 - 14$$

$$x = 7$$

$$\therefore \text{sum of present ages} = 5x + 3x \\ \Rightarrow 5 \times 7 + 3 \times 7 \\ = 35 + 21 \\ = 56 \text{ yrs}$$

3) 5th yrs.

Q12 If the product of present ages of A & B is 750
 & the ratio of their present ages is 3:5. Find
 - diff. b/wn their present ages.

Q1 Let present age = $6x$ and $5x$.

Then,

$$A \times B = 750$$

$$6x \times 5x = 750$$

$$30x^2 = 750$$

$$x^2 = \frac{750}{30} = 25$$

$$x^2 = 25$$

$$x = 5$$

\therefore diff. b/wn of their present ages is,

$$\Rightarrow 6 \times 5 - 5 \times 5$$

$$\Rightarrow 30 - 25$$

$$\Rightarrow 5 \text{ yrs.}$$

4) 5 yrs.

Q12 If ratio of ages of A & B at present is 2:1.

- 8 yrs earlier, the ratio was 3:1. what is
 sum of present age of A & B.

Ques: If the ratio of age of A & B is $2x : x+6$

& 6 yrs earlier,

$$\text{then } \frac{2x-6}{x-6} = \frac{3}{1}$$

$$\text{or } 2x-6 = 3x-18$$

$$\text{or } -6+18 = 3x-2x$$

$$\text{or } 12 = x$$

$$\therefore \text{sum of their age} = 2x + x$$

$$= 24 + 12$$

$$= 36 \text{ yr.}$$

5) None of these Ques

Ques: The ratios of p's & q's are in 5:7 if diff. between both present age of q and age of p 6 yrs hence is 2, what is total of present age?

Ans: If ratio of p & q is $5 : 7x$.

$$\text{or } q - (p+6) = 2$$

$$\text{or } 7x - (5x+6) = 2$$

$$\text{or } 7x - 5x - 6 = 2$$

$$\text{or } 2x = 8$$

$$x = 4$$

$$\therefore \text{Total of present age} = 5x + 7x$$

$$= 5 \times 4 + 7 \times 4$$

$$= 20 + 28$$

$$= 48 \text{ yr.}$$

2) 48 yr.

Ques: The product of ages of Harish & Seema

Ques: is 240. If twice age of Seema is more than Harish age by 4 yrs, what is Seema's age?

Ans: If $H \times S = 240$ & ①.

$$2S = H + 4 \rightarrow (i)$$

$$H = 2S - 4 \rightarrow (ii) \text{ &}$$

$$H = \frac{240}{5} \rightarrow (iii).$$

then,

$$H = 2S - 4$$

$$\text{on } \frac{240}{5} = (2S - 4)$$

$$\text{or } 240 = 5(2S - 4)$$

$$\text{or } 240 = 2S^2 - 4S$$

$$\text{or } 2S^2 - 4S - 240 = 0,$$

$$\text{or } S^2 - 2S - 120 = (i)$$

Solving this eqn

$$\therefore S = 12 \text{ yrs.}$$

$\therefore 12 \text{ yrs.}$

Q18 Jayesh is twice as old as Vijay & half as old as Suresh. If sum of Suresh & Vijay's age is 85 yrs, what is Jayesh's age in yrs?

Ans Let,

$$\text{or } J = 2V - (i)$$

$$J = \frac{1}{2}S - (ii)$$

$$\therefore V = \frac{1}{2}J - (iii) \text{ &}$$

$$S = 2J - (iv)$$

$$S + V = 85$$

$$\text{or } 2J + \frac{1}{2}J = 85$$

$$\text{or } 4J + J = 85 \times 2$$

$$5J = 170$$

$$J = 34 \text{ any}$$

$\therefore 34, \text{ any}$

Q16 The ratio of present age of son & Father is 1:5
so that his mother & father 4:5. After 2 yrs.
ratio of son & mother 3:10. Present age of father
Ans If present ratio of son & Father be 1:5
Ratio of mother & father is 4x & 5x.

According to qn-

$$\text{Son age} = 1x$$

$$\text{Mother} = 4x$$

* After 2 yrs-

$$\frac{x+2}{4x+2} = \frac{3}{10}$$

$$\therefore x = 7$$

$$\therefore \text{present age of Father} = 5x7 = 35 \text{ yrs.}$$

∴ ~~35~~ 35 yrs.

Q17 +5 yrs hence, A will be twice as old as B,
but five yrs ago A was 4 times old as B.
Find difference b/w their present ages?

Ans: If A = x & B = y.

* 15 yrs hence,

$$A = 2B$$

$$x+15 = 2(y+15)$$

$$x+15 = 2y+30$$

$$x - 2y = 15 \quad (1)$$

* Five yrs ago,

$$A = 4B$$

$$\text{or } x-5 = 4(y-5)$$

$$\text{or } x - 4y = -15 \quad (1)$$

so solving (1) & (1)

$$x - 2y = 15$$

$$-x - 4y = -15$$

$$2y = 30$$

$$y = 15$$

$$x - 2y = 15$$

$$x - 30 = 15$$

$$x = 45$$

∴ difference of their present age = $45 - 15$
 $= 30$ yrs.

Q) 30 yrs ago

Q18 A says to B "I am twice as old as you were
when I was as old as you are". The sum of their
ages is 63 yrs. Find diff. of their ages.

Ans Let current age of A = a & B = b .

When A (A) was as old as you are (b) \rightarrow this
was t yrs $= a - b$ years ago.

$$\text{i.e. } a - t = b$$

$$t = a - b$$

Then,

b age was,

$$= b - t$$

$$= b - (a - b)$$

$$= 2b - a$$

I am twice as old! :-

$$a = 2(2b - a)$$

$$\Rightarrow 3a = 4b$$

$$\Rightarrow b = \frac{3}{4}a$$

then,

$$a + b = 63$$

$$a + \frac{3}{4}a = 63$$

$$a = 36, b = 27$$

A	past	present
B	y	$2y$
B	a	$y = \frac{3a}{2}$

$$\therefore 2a - y = y - a$$

$$y = \frac{3a}{2}$$

$$\therefore 2a + \frac{3a}{2} = 63$$

$$a = 18$$

$$\therefore 36 - \frac{3 \times 18}{2}$$

$$= 36 - 27$$

$$= 9 \text{ years}$$

Difference = 36 - 27 = 9 yrs.

3) 9 yrs

Q19 A says is much younger than B as he is older than C. If the sum of B's & C's ages is 40.

Ans From question,

$$\text{or let } A = 9, B = b \text{ & } C = c$$

then,

$$\text{or } b - 9 = 9 - c$$

$$\text{or } \rightarrow 9 - 9 = -b + c$$

$$\text{or } -2a = -b + c$$

$$\text{or, } 2a = b + c \quad \text{--- (i)}$$

$$\therefore b + c = 40 \quad \text{--- (ii)}$$

$$\therefore 2a = 40$$

$$\text{or } a = 20 \text{ yrs}$$

1) 20 yrs ans

Q20. A is twice as old as B was two years ago. If diff. in their ages be 2yrs, find A's age.

$$\text{or, } a = 2(b - 2)$$

$$\text{or, } a = 2b - 4 \quad \text{--- (i)}$$

$$a - b = 2$$

$$a = 2 + b \quad \text{--- (ii)}$$

$$\therefore 2b - 4 = 2 + b$$

$$\text{or, } b = B$$

$$\therefore \text{The age of A is } a = 2b - 4$$

$$= 2 \times 6 - 4$$

$$= 8 \text{ yrs}$$

3) 8 yrs

Q21 In ten yrs, A will be twice as old as B was 10 years ago. If A is now 9 yrs older than B, find the present age of B.

Ans From question,

$$a + 10 = 2(b - 10) \rightarrow ①$$

condn 2;

$$a = b + 9 \rightarrow ②$$

Substituting value of a in eqn ①.

$$\text{Or } b + 9 + 10 = 2(b - 10)$$

$$\text{Or } b + 19 = 2b - 20$$

$$\text{Or } 19 + 20 = 2b - b$$

$$\text{Or } 39 = b$$

$$\therefore b = 39 \text{ yrs}$$

\therefore 39 years ans

Q22 Five years ago, the total of age of father & son was 80 yrs. The ratio of present ages is 4:1. Then present age of father is.

Ans * Five years ago,

Let age of father be x & son be y .

Then ratio of their ages is $4x : 1x$.

* Five years ago;

$$\text{Or, } (x - 5) + (y - 5) = 60$$

$$\text{Or, } x + y - 10 = 60$$

$$x + y = 70 \rightarrow ①$$

$$\therefore \frac{x}{y} = \frac{4}{1}$$

$$\frac{x}{y} = \frac{4}{1}$$

$$x = 4y \rightarrow ②$$

Q1) $4y + y = 70$

Q1) $5y = 70$

Q1) $y = 14 \therefore$ son age.

Then, Father age is $4y = 4 \times 14 = 56$ yrs.

3) 56 yrs. only

Q23 Two yrs ago, A was four times as old as B. 8 yrs hence, A's age will exceed B's age by 12 yrs. Ratio of present age of A & B?

Ans 1st condn,

$$(A-2) = 4(B-2)$$

$$A-2 = 4B-8$$

$$A - 4B = -6 \quad \text{--- (1)}$$

$$\therefore A = 4B - 6 \quad \text{--- (1)}$$

2nd condition,

Q1) $(A+8) - (B+8) = 12$

Q1) $A+8 - B-8 = 12$

Q1) $A - B = 12$

$$A = 12 + B \quad \text{--- (2)}$$

$\therefore 4B - 6 = 12 + B$

Q1) $4B - B = 12 + 6$

Q1) $3B = 18$

$B = 6$

$A = 4 \times 6 - 6$

$= 24 - 6$

$= 18$

$\therefore A : B = 18 : 6 \Rightarrow 3 : 1$

1) 3:1

Q24 If C's age is twice avg age of A, B & C. All age is one half the avg of A, B, C. If B is 50 yrs old, avg age of A, B, C & C.

Ans

$$C = 2 \left(\frac{A+B+C}{3} \right)$$

$$A = \frac{1}{2} \left(\frac{A+B+C}{3} \right), \quad B=5.$$

$$3C = 2(A+B+C)$$

$$3A = A+B+C$$

$$3C = 2 + 6A$$

$$C = 4A$$

$$\textcircled{1} \quad 10A = 2(A+5+5A)$$

$$10A = 10A + 10$$

$$A = 5, \quad C = 4 \times 5 = \underline{\underline{20}}$$

$$\frac{A+B+C}{3} = \frac{(20+5+5)}{3} = \underline{\underline{10}}$$

i) 10 yrs ago

~~Q25~~ A Father's age is three times sum of ages of his two children, by 2 yrs hence his age will be equal to sum of their ages. Then Father's age is.

Ans :- Let Father age = F

& two son age be x & y.

their sum = S = x+y.

1st condn,

$$F = 3S - \textcircled{1}$$

2nd condn, After 20 yrs,

$$F+20 = (x+20)(y+20)$$

$$F+20 = S+40.$$

$$F = S+20. - \textcircled{1}$$

then,

$$\textcircled{1} \quad 3S = S+20.$$

$$\therefore 2S = 20$$

$$S = 10.$$

$$\therefore \text{Father age} = 3S = 3 \times 10 = 30 \text{ yrs}$$

f) 30 years.

Q26 A father's age is four times as much as sum of ages of his three children but by 6 yrs hence his age will be only double sum of their ages. Then
Ans Let father age be F & age of father?

Son age be $x, y, \& z$.

$$\text{Sum of son age } S = x+y+z.$$

1st condn,

$$F = 4(x+y+z)$$

$$F = 4S \quad \rightarrow \text{(1)}$$

$$\therefore F = 4(x+y+z)$$

$$F = 4S \quad \rightarrow \text{(1)}$$

2nd condn,

$$F+6 = 2((x+6)(y+6)(z+6))$$

$$F+6 = 2(S+18)$$

$$F+6 = 2S+36$$

$$F = 2S+30 \quad \rightarrow \text{(2)}$$

$$\therefore 4S = 2S+30$$

$$\therefore S = 15$$

$$\therefore \text{Father age} = 4S = 4 \times 15 = 60 \text{ yr}$$

3) 60 years ago

Q27 The total ages of A, B, C at present is 90 yrs. If 6 yrs ago the ratio of their ages was 1:2:3. Then present age of B is - - -

Ans Let ages be - $A, B, \& C$.

10 years ago,

$$A = x+10$$

$$B = 2x+10$$

$$C = 3x+10$$

$$\therefore x+10 + 2x+10 + 3x+10 = 90$$

$$6x = 90 - 60$$

$$x = 10$$

Q3) present age of P is 210
 $\therefore 210 + 10$
 $\therefore 220$ yrs.

Q4) 20 years

Q5) The sum of age of father & son is 45 yrs. Five years ago the product of their ages was four times father's age at that time. The present ages of father & son resp are - 6 yrs.

Ans $F + S = 45 \quad \dots (1)$

1) $39, 6$
 $24, 1$ (-5)
 (34)

2) $25, 11$, 3) $36, 9$
 $30, 15$
 180 $31, 4$
 124

3) $36, 9$ any

Q29) The ratio of father's son's age is 7:4.
 \therefore The product of their ages is 1008. The ratio
of their ages after 6 yrs hence will be.

Ans. $F:S$

$$7:4 = 7x:4x$$

\therefore

$$FxS = 1008$$

$$7x \times 4x = 1008$$

$$28x^2 = 1008$$

$$\cancel{2} : \frac{1008}{28}$$

$$x = 6$$

then,

$$\Rightarrow 7x6 : 4x6$$

$$\Rightarrow 42+6 : 24+6$$

$$= 48 : 30$$

$$= 24 : 15$$

$$= 8 : 5$$

2) 8:5

Q30 If 6 yrs are subtracted from present age of Randheer & remainder is divided by 18, then the present age of his grandson Anup is obtained. If Anup is 2 yrs younger to Mahesh whose age is 5 yrs, then what

Ans: or, $\frac{R-6}{18} = 3$ is age of Randheer?

or, $R-6 = 54$

$\therefore R = 60$ years

4) 60 years