

Problems on Ages

Working methodology: In these problems, two persons initial ages will be given. and before or after several years, their ratio of the ages will be given. Multiply the ratio of their initial age by x or some variable and take them as their initial age. Now if final ratio has been given, equate this ratio with that ratio and find x . Or proceed according to the problem.

Solved Examples:

1. One year ago Jaya was four times as old as her daughter Nikitha. Six years hence, Mrs. Jaya's age will exceed her daughter's age by 9 years. The ratio of the present ages of Jaya and her daughter is :

- a. 9 : 2
- b. 11: 3
- c. 12: 5
- d. 13: 4

Correct Option: D

Explanation:

Let Nikitha's age 1 year ago = x

Then Jaya's age 1 year ago = $4x$

After 6 years their ages are $4x+7$, $x+7$

$$(4x+7) - (x+7) = 9 \text{ or } x = 3$$

Present age of Jaya = $(12+1)$ years = 13 years

Present age of Nikitha = $(3+1)$ years = 4 years

Ratio of their ages = 13 : 4

2. Five years ago, the total of the ages of a father and his son was 40 years. The ratio of their present ages is 4 : 1.

What is the present age of the father ?

- a. 30 years
- b. 20 years
- c. 25 years
- d. None of these

Correct Option: D

Explanation:

Let son's age = x . Then father's age = $4x$

$$(x-5) + (4x-5) = 40 \Rightarrow x = 10$$

Present age of father = 40 years

3. A father is twice as old as his son. 20 years ago the age of the father was 12 times the age of the son. The present age of the father is :

- a. 44 years
- b. 32 years
- c. 22 years
- d. 45 years

Correct Option: A

Explanation:

Let son's age = x. Then, father's age = 2x.

$$12(x-20)=(2x-20)\Rightarrow x=22$$

Father's present age = 44 years

4. The ratio of the ages of Jaya and Ravi is 2:5. After 8 years, their ages will be in the ratio of 1:2. The difference in their present ages is : (in years)

- a. 24
- b. 26
- c. 29
- d. 32

Correct Option: A

Explanation:

Let Jaya's age = 2x or Ravi's age = 5x.

$$\frac{2x+8}{5x+8} = \frac{1}{2} \Rightarrow 2(2x+8) = (5x+8) \Rightarrow x = 8$$

Jaya's age = 16 years

Ravi's age = 40 years

Difference of their ages = 24 years

5. The ages of Ravi Rani are in the ratio of 3:5. After 9 years, the ratio of their ages will become 3:4. The present age of Rani is : (in years)

- a. 9
- b. 15
- c. 18
- d. 24

Correct Option: B

Explanation:

Let Ravi's age = 3x or Rani's age = 5x

$$\frac{3x+9}{5x+9} = \frac{3}{4} \Rightarrow 4(3x+9) = 3(5x+9) \Rightarrow x = 3$$

Rani's age = 15 years

6. The ratio of the ages of Meena and Meera is 4:3. The sum of their ages is 28 years. The ratio of their ages after 8 years will be :

- a. 4:3
- b. 12:11
- c. 7:4
- d. 6:5

Correct Option: D

Explanation:

Let Meena's age = $4x$ or Meera's age = $3x$. Then,

$$4x + 3x = 28 \Rightarrow x = 4$$

Meena's age = 16 years or Meera's age = 12 years

After 8 years their ages are 24 and 20. So ratio is 6 : 5

7. 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. 8 years
- b. 20 years
- c. 35 years
- d. 45 years

Correct Option: C

Explanation:

Let A's age 10 years ago = x years

Then B's age 10 years ago = $2x$ years

$$\frac{x + 10}{2x + 10} = \frac{3}{4} \Rightarrow 4(x + 10) = 3(2x + 10) \Rightarrow x = 5$$

Total of their present ages = $(x + 10 + 2x + 10) = (3x + 20) = 35$ years

8. The ratio of Vimal's age and Aruna's age is 3:5 and sum of their ages is 80 years. The ratio of their ages after 10 years will be :

- a. 2 : 3
- b. 1 : 2
- c. 3 : 2
- d. 3 : 5

Correct Option: A

Explanation:

$$3x + 5x = 80 \Rightarrow x = 10$$

Ratio of their ages after 10 years = $(3x + 10 : 5x + 10) = 40 : 60 = 2 : 3$

9. Jayesh is as much younger to Anil as he is older to Prashant. If the sum of the ages of Anil and Prashant is 48 years, what is the age of Jayesh?

- a. 20 years
- b. 24 years
- c. 30 years
- d. Cannot be determined

Correct Option: B

Explanation:

The given question says, the difference between Anil and Jayesh is same as Jayesh and Prashant.

$$\text{So } A - J = J - P \Rightarrow 2J = A + P$$

$$\text{Given } A + P = 48.$$

$$\text{So } 2J = 48 \Rightarrow J = 24$$

Alternate Method:

Let Anil's age = x years. Then, Prasant's age = (48-x) years. Let the age of Jayesh be P years. Then

$$P - (48 - x) = x - P \Rightarrow 2P = 48 \text{ or } P = 24$$

10. Three years ago the average age of A and B was 18 years. With C joining them, the average becomes 22 years. How old is C now ?

- a. 24 years
- b. 27 years
- c. 28 years
- d. 30 years

Correct Option: A

Explanation:

Sum of ages of A and B, 3 years ago = $(18 \times 2) = 36$ years. Sum of ages of A,B and C, now = $(22 \times 3) = 66$ years.

Sum of ages of A and B, now = $(36+6)$ years = 42 years

$$\text{C's age} = (66-42)\text{years} = 24 \text{ years}$$

11. One year ago the ratio between Samir and Ashok's age was 4:3. One year hence the ratio of their age will be 5:4. What is the sum of their present ages in years?

- a. 12 years
- b. 15 years
- c. 16 years
- d. Cannot be determined.

Correct Option: C

Explanation:

$$\frac{4x+2}{3x+2} = \frac{5}{4} \Rightarrow 4(4x+2) = 5(3x+2) \Rightarrow x = 2$$

$$\text{Sum of their present ages} = (4x + 1 + 3x + 1) = (7x + 2) = 16 \text{ years}$$

12. The ratio between the ages of A and B at present is 2: 3 Five years hence the ratio of their ages will be 3:4.

What is the present age of A ?

- a. 10 years
- b. 15 years
- c. 25 years
- d. Data inadequate

Correct Option: A

Explanation:

Let the ages of A and B be $2x$ and $3x$ years.

$$\frac{2x+5}{3x+5} = \frac{3}{4} \Rightarrow 4(2x+5) = 3(3x+5) \Rightarrow x = 5$$

A's present age = $2x=10$ years

13. The ratio of the ages of father and son at present is 6:1. After 5 years the ratio of will become 7:2. The present age of the son is :

- a. 5 years
- b. 6 years
- c. 9 years
- d. 10 years

Correct Option: A

Explanation:

$$\frac{6x+5}{x+5} = \frac{7}{2} \Rightarrow 2(6x+5) = 7(x+5) \Rightarrow x = 5$$

Son's present age = 5 years

14. Ratio of Ashok's age to Pradeep's age is equal to 4:3 Ashok will be 26 years old after 6 years. How old is Pradeep now ?

- a. 12 years
- b. 15 years
- c. $19\frac{1}{2}$ years
- d. 21 years

Correct Option: B

Explanation:

Let Ashok's age = $4x$ and Pradeep's age is $3x$ years

$$4x+6=26 \Rightarrow x = 5$$

Pradeep's age = $3x=15$ years

15. Kamala got married 6 years ago. Today her age is $1\frac{1}{4}$ times her age at the time of marriage. Her son's age is $(\frac{1}{10})$ times her age. Her son's age is :

- a. 2 years
- b. 3 years

c. 4 years

d. 5 years

Correct Option: B

Explanation:

Let Kamala's age 6 years ago be x years, then Kamala's present age = $(x+6)$ years

$$(x+6) = \frac{5}{4}x \quad \text{or} \quad 4x+24 = 5x \quad \text{or} \quad x = 24$$

So Kamala's present age = 30 years, Son's present age = $\left[\frac{1}{10} \times 30\right] = 3$ years

16. 10 years ago, Chandravati's mother was 4 times older than her daughter. After 10 years, the mother will be twice older than the daughter. The present age of Chandravati is:

a. 5 years

b. 10 years

c. 20 years

d. 30 years

Correct Option: C

Explanation: Let Chandravati's age 10 years ago be x years.

Mother's age 10 years ago = $(4x)$ years

$$2(x+20) = (4x+20) \Rightarrow x = 10$$

Present age of Chandravathi = $(x+10) = 20$ years

17. The age of Arvind's father is 4 times his age. If 5 years ago, father's age was 7 times the age of his son at the time, what is Arvind's father's present age ?

a. 35 years

b. 40 years

c. 70 years

d. 84 years

Correct Option: B

Explanation:

Let Arvind's age be x years

Then his father's age = $4x$ years

$$(4x-5) = 7(x-5) \quad \text{or} \quad 3x = 30 \quad \text{or} \quad x = 10$$

Hence Arvind's father's age is 40 years

18. Pushpa is twice as old as Rita was two years ago. If the difference between their ages is 2 years, how old is Pushpa today ?

a. 6 years

b. 8 years

c. 10 years

d. 12 years

Correct Option: B

Explanation:

Let Rita's age 2 years ago be x years. Pushpa's present age = $(2x)$ years.

$$2x - (x+2) = 2 \Rightarrow x = 4$$

Pushpa's present age = 8 years

19. Five years ago Vinay's age was one-third of the age of Vikas and now Vinay's age is 17 years. What is the present age of Vikas ?

- a. 9 years
- b. 36 years
- c. 41 years
- d. 51 years

Correct Option: C

Explanation:

Let the present age of Vikas be x years

$$\text{Then, } 17 - 5 = \frac{1}{3}(x - 5)$$

$$\text{or } x - 5 = 36 \text{ or } x = 41$$

20. The sum of the ages of a father and son is 45 years. Five years ago the product of their ages was 4 times the father's age at that time. The present ages of the father and son, respectively are,

- a. 25 years, 10 years
- b. 36 years, 9 years
- c. 39 years, 5 years
- d. none of these

Correct Option: B

Explanation:

Let the present ages of father and son be x years and $(45 - x)$ years

$$\text{Then, } (x - 5)(45 - x - 5) = 4(x - 5)$$

$$45 - x - 5 = 4 \text{ or } x = 36$$

The present ages of father and son are 36 years and 9 years respectively.

21. Rajan's age is 3 times that of Ashok. In 12 years, Rajan's age will be double the age of Ashok. Rajan's present age is :

- a. 27 years
- b. 32 years
- c. 36 years
- d. 40 years

Correct Option: C

Explanation:

Let Ashok's age be x years

Then, Rajan's age = $3x$ years

$$2(x+12)=(3x+12) \text{ or } x = 12$$

Hence, Rajan's age = $3x$ years

$$2(x+12)=(3x+12) \text{ or } x = 12$$

Hence Rajan's present age is 36 years

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

- a. 19 years
- b. 29 years
- c. 39 years
- d. 49 years

Correct Option: C

Explanation:

Let the present ages of B and A be x years and $(x+9)$ years respectively. Then 10 years ago B's age is $(x - 10)$ and in the next 10 years A's age is $(x + 19)$

Given that A's age is twice of B

$$\text{So } (x + 19) = 2 \times (x - 10) \Rightarrow x + 19 = 2x - 20 \Rightarrow x = 39$$

23. Mr.Sohanlal is 4 times as old as his son. Four years hence the sum of their ages will be 43 years. The present age of son is :

- a. 5 years
- b. 7 years
- c. 8 years
- d. 10 years

Correct Option: B

Explanation:

Let the son's age be x years

$$\text{Then, } (x+4)+(4x+4)=43$$

$$\text{or } 5x = 35 \text{ or } x = 7$$

24. The sum of the ages of a son and father is 56 years. After 4 years, the age of the father will be three times that of the son. Their ages respectively are:

- a. 12 years, 44 years
- b. 16 years, 42 years
- c. 16 years, 48 years
- d. 18 years, 36 years

Correct Option: A

Explanation:

Let the present ages of son and father be x years
and $(56-x)$ years respectively.

Then $(56-x+4)=3(x+4)$

or $4x=48$ or $x=12$

So their ages are 12 years, 44 years respectively.

25. The sum of the ages of a mother and daughter is 50 years. Also, 5 years ago, the mother's age was 7 times the age of the daughter. The present ages of the mother and daughter respectively are :

- a. 35 years, 15 years
- b. 38 years, 12 years
- c. 40 years, 10 years
- d. 42 years, 8 years

Correct Option: C

Explanation:

Let the daughter's present age be x years. Then, mother's present age = $(50-x)$ years.

Now, $7(x-5)=(50-x-5)$ or $x=10$

So, their present ages are 40 years and 10 years.

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