PROBLEM ON AGES

INTRODUCTION

Important Formulas on "Problems on Ages" :

1. If the current age is x, then n times the age is nx.
2. If the current age is x, then age n years later/hence $= x + n$.
3. If the current age is x, then age n years ago $= x - n$.
4. The ages in a ratio $a : b$ will be ax and bx.

5. If the current age is x, then $\dfrac{1}{n}$ of the age is $\dfrac{x}{n}$.

1. Rabert's age after 15 years will be 5 times his age 5 years back. What is the present age of Rajeev?

    Sol. Let Rabert's present age be x years. Then,
    Rabert's age after 15 years $= (x + 15)$ years.
    Rabert's age 5 years back $= (x - 5)$ years.
    $\therefore x + 15 = 5 (x - 5) \Leftrightarrow x + 15 = 5x - 25$
    $\Leftrightarrow 4x = 40 \Leftrightarrow x = 10$.
    Hence, Rabert' present age = 10 years.

2. The present age of a father is 3 years more than three times the age of his son. Three years hence, father's age will be 10 years more than twice the age of the son. Find the present age of the father.

    Sol. Let the son's present age be x years. Then father's present age $= (3x + 3)$ years.
    $\therefore (3x + 3 + 3) = 2 (x + 3) + 10 \Leftrightarrow 3x + 6 = 2x + 16$
    $\Leftrightarrow x = 10$.
    Hence, father's present age $= (3x + 3) = (3x + 3) = (3 * 10 + 3)$ years = 33 years.

3. The ages of two persons differ by 16 years. If 6 years agao, the elder one be 3 times as old as the younger one, find their present ages.

    Sol.
    Let the age of the younger person be x years.
    Then, age of the elder perosn $= (x + 16)$ years.
    $\therefore 3(x - 6) = (x + 16 - 6) \Leftrightarrow 3x - 18 = x + 10$
    $\Leftrightarrow 2x = 28 \Leftrightarrow x = 14$
    Hence, their present ages are 14 years and 30 years.

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PSC , Bank(Clerk/PO), SSC, Railways, S.I. , Classes
Director – Rajeev Sir, Mob.& WhatApp No. ☎9826072042
F – 12, City Bazar,Thatipur, Gwalior (M.P.)www.gourinstitute.in

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EXERCISE

01. The ratio of Meena and Meera's age is 4 : 3. The addition of their ages is 28 years. What will be the ratio of their ages after 8 years -
(a) 4 : 3   (b) 6 : 5   (c) 7 : 4   (d) 12 : 11   (e) None of these

02. The ratio of Ram and Mukta's ages is 3 : 5. After 9 years it will be 3 : 4. find the present age of Mukta.
(a) 9 Years   (b) 15 Years   (c) 18 Years   (d) 24 Years   (e) None of these

03. the age of a man is 2 times that of his son. 20 years ago, the man was 12 times as old as his son was at that time. What is the present age of the man ?
(a) 44 Years   (b) 32 Years   (c) 52 Years   (d) 45 Years   (e) None of these

04. 5 years ago the sum of father and his son age was 40 years. At present the ratio of then ages 4 ; 1. present age of man is -
(a) 50 Years   (b) 55 Years   (c) 45 Years   (d) None of these

05. The average age of three boys is 35 years. If their ages are in the ratio 3 : 5 ; 7, the age of youngest boys is -
(a) 15 Years   (b) 18 Years   (c) 21 Years   (d) 12 Years   (e) None of these

06. The ratio of Vimal and Arun's ages is 3 : 5 and sum of their ages is 80 years. What will be the ratio of their ages after 10 years -
(a) 2 : 3   (b) 1 : 2   (c) 3 : 2   (d) 3 : 5   (e) None of these

07. Ten years ago, Ram was half of shyam in age. If ratio of their present ages is 3 : 4, What will be the total of their present ages.
(a) 14 Years   (b) 20 Years   (c) 30 Years   (d) 35 Years   (e) None of these

08. Ten years ago Ajay was half of Sachin in age. If Shachin's age is 40 years after ten years. The present age of Ajay is -
(a) 20 Years   (b) 30 Years   (c) 35 Years   (d) 40 Years   (e) None of these

09. Ten years ago Chandra's age is one-fourth of her mother's age. After ten years her mother's age will be double of Chandra's age. Present age of Chandra's is -
(a) 5 Years   (b) 10 Years   (c) 20 Years   (d) 30 Years   (e) None of these

10. The ratio of father and son's age is 7 : 3 and product of their ages is 756. What will be ratio of their ages after 6 years -
(a) 5 : 2   (b) 2 : 1   (c) 11 : 7   (d) 13 : 9   (e) None of these

11. The ratio of three men is 4 : 7 : 8. 8 years ago, the sum of their ages was 56 years. Their present ages are -
(a) 8 Years 20 Years 28 Years   (b) 16 Years 28 Years 36 Years
(c) 20 Years 35 Years 45 Years   (d) None of these

12. The ratio of spouse is 4 : 3, five years later it will be. 9 : 7. If at the time marriage it was 5 : 3. How many years before they got married -
(a) 8 Years   (b) 10 Years   (c) 12 Years   (d) 15 Years   (e) None of these

13. The sum of Ramesh, Mahesh and Amit's present ages is 93 years. Ten years ago the ratio of their ages was 2 : 3 ; 4. Present age of Amit is -
(a) 24 Years   (b) 32 Years   (c) 34 Years   (d) 38 Years   (e) None of these

ANSWER SHEET

PROBLEM ON AGES EXERCISE

1	2	3	4	5	6	7	8	9	10	11	12	13
B	B	A	D	C	A	D	A	C	B	B	C	D