

KERALA HIGH COURT
OFFICE ATTENDANT EXAM

Numerical Ability

Problems on Ages

Key Concepts • Shortcuts • 25 Practice Questions • Answer Key with Solutions

1. Key Concepts

- Take the **present age as x** (or as multiples like $3x$ and $5x$ when a ratio is given).
- **n years ago** a person's age = (present age - n). **After n years** = (present age + n).
- The **difference between two persons' ages never changes**. Two persons always stay the same number of years apart.
- If the ratio of two ages is $a : b$, take the ages as **ak** and **bk**.
- When time passes, the **sum of ages of n persons increases by n times the years** passed. For example, the sum of 3 persons' ages increases by 15 in 5 years.
- The **average age** of a group increases (or decreases) by exactly the number of years passed.

2. How to Solve Age Problems

- **Step 1:** Assume the unknown present age as x (or the ratio multiple k).
- **Step 2:** Write the other ages in terms of x using the given relationships.
- **Step 3:** Form an equation using the condition about 'n years ago' or 'after n years'.
- **Step 4:** Solve and check the answer by plugging back in.

3. Useful Shortcuts

- If the ratio of ages of A and B is $a : b$ and the difference is d : $A = a \times d / (b - a)$, $B = b \times d / (b - a)$.
- Average age of a group of n persons: Sum of ages = Average $\times n$.
- When a new member joins or leaves, use: Change in total = New average $\times$ new number - Old average $\times$ old number.
- Children born at equal intervals of d years: ages form an arithmetic progression ($x, x + d, x + 2d, \dots$).

Quick tip: Always check that the ages you get are realistic (e.g., a mother cannot be 16 when her daughter is 4).

4. Practice Questions (25)

Q1. A father is 3 times as old as his son. The sum of their ages is 48 years. The son's age is:

- (a) 10 years
- (b) 12 years
- (c) 14 years
- (d) 16 years

Q2. A is 5 years older than B. The sum of their ages is 35 years. A's age is:

- (a) 15 years
- (b) 18 years
- (c) 20 years
- (d) 25 years

Q3. The ages of two persons are in the ratio 3 : 5 and their sum is 64 years. The elder person's age is:

- (a) 40 years
- (b) 24 years
- (c) 32 years
- (d) 30 years

Q4. A father is 40 years old and his son is 10. After how many years will the father be twice as old as his son?

- (a) 10 years
- (b) 15 years
- (c) 25 years
- (d) 20 years

Q5. 5 years ago a person was 20 years old. His age after 10 years will be:

- (a) 30 years
- (b) 35 years
- (c) 40 years
- (d) 45 years

Q6. The ratio of ages of A and B is 4 : 5. After 5 years the ratio will be 5 : 6. The present age of A is:

- (a) 15 years
- (b) 18 years
- (c) 20 years
- (d) 25 years

Q7. The sum of the ages of a father and son is 50 years. 5 years ago the father was 4 times as old as the son. The father's present age is:

- (a) 37 years
- (b) 35 years
- (c) 40 years
- (d) 33 years

Q8. The average age of three persons is 24 years. If two of them are 20 and 28 years old, the third person's age is:

- (a) 20 years
- (b) 22 years
- (c) 28 years
- (d) 24 years

Q9. A mother is 4 times as old as her daughter. After 5 years she will be 3 times as old. The daughter's present age is:

- (a) 8 years
- (b) 10 years
- (c) 12 years
- (d) 15 years

Q10. A is 4 years older than B. After 6 years the ratio of their ages will be 7 : 6. A's present age is:

- (a) 20 years
- (b) 24 years
- (c) 22 years
- (d) 26 years

Q11. The present ages of Ram and Shyam are in the ratio 3 : 2. After 10 years the ratio will be 5 : 4. Shyam's present age is:

- (a) 10 years
- (b) 15 years
- (c) 12 years
- (d) 8 years

Q12. The sum of ages of 5 children born at intervals of 3 years is 50 years. The age of the youngest child is:

- (a) 2 years
- (b) 3 years
- (c) 5 years
- (d) 4 years

Q13. A man is 24 years older than his son. In 2 years his age will be twice his son's age. The son's present age is:

- (a) 20 years
- (b) 22 years
- (c) 24 years
- (d) 26 years

Q14. The ages of A and B are in the ratio 5 : 7 and the difference between their ages is 8 years. B's age is:

- (a) 24 years
- (b) 32 years
- (c) 28 years
- (d) 36 years

Q15. A's age is twice B's age. 10 years ago A was 3 times as old as B. B's present age is:

- (a) 20 years
- (b) 25 years
- (c) 30 years
- (d) 15 years

Q16. The average age of 4 persons is 30 years. If a person aged 36 leaves, the average age of the remaining 3 is:

- (a) 24 years
- (b) 25 years
- (c) 30 years
- (d) 28 years

Q17. 10 years ago A was twice as old as B. Now A is 10 years older than B. A's present age is:

- (a) 25 years
- (b) 30 years
- (c) 35 years
- (d) 40 years

Q18. The ages of two persons are in the ratio 5 : 7 and their sum is 60 years. The younger person's age is:

- (a) 20 years
- (b) 30 years
- (c) 25 years
- (d) 35 years

Q19. A father is 5 times as old as his son. 4 years ago he was 9 times as old. The son's present age is:

- (a) 8 years
- (b) 10 years
- (c) 12 years
- (d) 6 years

Q20. A person's age after 15 years will be 3 times his age 5 years ago. His present age is:

- (a) 10 years
- (b) 12 years
- (c) 18 years
- (d) 15 years

Q21. The ratio of ages of two persons is 4 : 7. After 6 years the ratio will be 5 : 8. The elder person's present age is:

- (a) 36 years
- (b) 42 years
- (c) 48 years
- (d) 30 years

Q22. The sum of the ages of two brothers is 30 years and the difference is 6 years. The elder brother's age is:

- (a) 16 years
- (b) 20 years
- (c) 18 years
- (d) 12 years

Q23. The average age of 11 players is 22 years. When the coach (40 years) is included, the average age becomes:

- (a) 23.5 years
- (b) 24 years
- (c) 23 years
- (d) 22.5 years

Q24. A father's age is 4 times his son's age. The father is 30 years older than the son. The father's age is:

- (a) 30 years
- (b) 35 years
- (c) 45 years
- (d) 40 years

Q25. B is 3 years older than A and C is 2 years younger than B. The sum of their ages is 61 years. A's age is:

- (a) 18 years
- (b) 19 years
- (c) 20 years
- (d) 21 years

5. Answer Key

1-b | 2-c | 3-a | 4-d | 5-b | 6-c | 7-a | 8-d | 9-b | 10-c | 11-a | 12-d | 13-b | 14-c | 15-a | 16-d | 17-b | 18-c | 19-a | 20-d | 21-b | 22-c | 23-a | 24-d | 25-b

6. Solutions

- Q1. (b) 12 years** - Let son = x , father = $3x$. $4x = 48$, so $x = 12$.
- Q2. (c) 20 years** - Let $B = x$, $A = x + 5$. $2x + 5 = 35$, so $x = 15$. $A = 20$.
- Q3. (a) 40 years** - 8 parts = 64, so 1 part = 8. Elder = $5 \times 8 = 40$.
- Q4. (d) 20 years** - $40 + x = 2(10 + x)$, so $x = 20$ years.
- Q5. (b) 35 years** - Present age = 25. After 10 years = 35.
- Q6. (c) 20 years** - $(4x + 5)/(5x + 5) = 5/6$ gives $x = 5$. $A = 4 \times 5 = 20$ years.
- Q7. (a) 37 years** - $F + S = 50$, $F - 5 = 4(S - 5)$. Solving gives $S = 13$ and $F = 37$.
- Q8. (d) 24 years** - Total = 72. Third = $72 - 48 = 24$ years.
- Q9. (b) 10 years** - $4D + 5 = 3(D + 5)$ gives $D = 10$ years.
- Q10. (c) 22 years** - $(B + 10)/(B + 6) = 7/6$ gives $B = 18$. $A = 22$ years.
- Q11. (a) 10 years** - $(3x + 10)/(2x + 10) = 5/4$ gives $x = 5$. Shyam = 10 years.
- Q12. (d) 4 years** - Ages: $x, x + 3, x + 6, x + 9, x + 12$. $5x + 30 = 50$, so $x = 4$.
- Q13. (b) 22 years** - $M = S + 24$. $M + 2 = 2(S + 2)$ gives $S = 22$.
- Q14. (c) 28 years** - 2 parts = 8, so 1 part = 4. $B = 7 \times 4 = 28$ years.
- Q15. (a) 20 years** - $2B - 10 = 3(B - 10)$ gives $B = 20$.
- Q16. (d) 28 years** - Total = 120. Remaining = 84. Average = $84/3 = 28$ years.
- Q17. (b) 30 years** - $A = B + 10$. $B + 10 - 10 = 2(B - 10)$ gives $B = 20$. $A = 30$ years.
- Q18. (c) 25 years** - 12 parts = 60, so 1 part = 5. Younger = $5 \times 5 = 25$ years.
- Q19. (a) 8 years** - $5S - 4 = 9(S - 4)$ gives $4S = 32$, so $S = 8$ years.
- Q20. (d) 15 years** - $x + 15 = 3(x - 5)$ gives $2x = 30$, so $x = 15$ years.
- Q21. (b) 42 years** - $(4x + 6)/(7x + 6) = 5/8$ gives $x = 6$. Elder = $7 \times 6 = 42$ years.
- Q22. (c) 18 years** - Elder = $(30 + 6)/2 = 18$ years.
- Q23. (a) 23.5 years** - $(242 + 40)/12 = 282/12 = 23.5$ years.
- Q24. (d) 40 years** - $3S = 30$, so $S = 10$. Father = 40 years.
- Q25. (b) 19 years** - Let $B = x$. $A = x - 3$, $C = x - 2$. $3x - 5 = 61$, so $x = 22$. $A = 19$ years.