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# MATHS SPECIAL



**PRE + MAINS**

**LIVE CLASS** (ONE TO ONE INTERACTION)

**REGISTRATION  
OPEN**

**BILINGUAL CONTENT**

**1 YEAR VALIDITY**

## INCLUDES

- ☐ LIVE Classes
- ☐ Result Oriented Approach
- ☐ PDF Notes
- ☐ Conceptual Clarity

## USEFUL FOR

- ☐ SSC EXAMS
- ☐ BANK EXAMS
- ☐ CSAT
- ☐ STATE GOVT. EXAMS

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**SACHIN BALIYAN SIR**



# MATHS SYLLABUS



## ARITHMETIC:

(SSC/BANK/CUET/CSAT/STATE GOVT)

Time and Work  
Pipe and Cistern

Percentage  
Profit Loss and Discount  
Compound Interest  
Simple Interest

Average  
Ratio and Proportion  
Based of Ages  
Partnership  
Mixture and Alligation

Time Speed And Distance  
Train  
Race  
Boat and Stream

## BANK:

Number Series  
Quadratic Equation  
Simplification  
Approximation

Data Interpretation

Mensuration

Permutation  
Combination  
Probability

## SSC:

Number System  
LCM + HCF

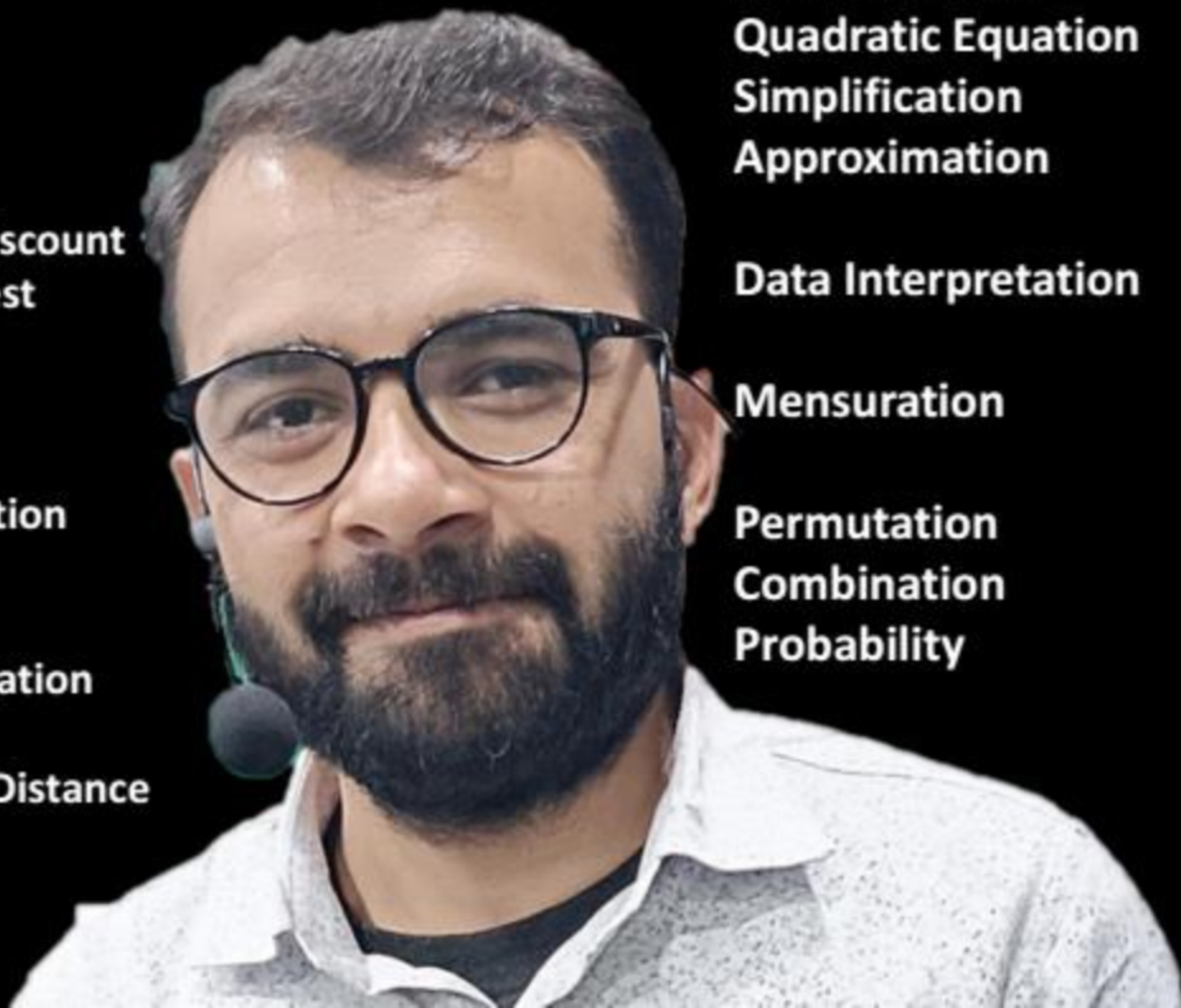
Surds  
Indices  
Algebra

Trigonometry  
Height and Distance

Geometry

Mensuration-2D  
Mensuration-3D

Co-ordinate Geometry



# BASED ON AGES

NO. OF QUESTIONS	CLASS NUMBER	CLASS DURATION
15 Questions	DAY -1	1 HOURS





CONDITIONS

Some conditions to remember :

1. Age some year ago before past
2. Present age/current/now
3. Age some year hence after future

Present

**BASED ON AGES-1**

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# CONCEPT





TYPES OF QUESTIONS ASKED IN EXAMS

Type 1:

The ratio of age of Asha and Sushma is in ratio 3:4. After 8 years the ratio of their ages will be 7:8. What is the difference in years between their ages?

Type 2:

If 10 years ago, the ratio of ages of A and B was 3:1 and after 10 years the ratio of their ages become 2:1. Find the sum of present ages?

Type 3:

The ratio between the present ages of P and R is 5:3. The ratio between P's age four years ago and R's age 6 years hence is 1:1. What is the ratio between P's age 4 years hence and R's age four years ago?



## TYPES OF QUESTIONS ASKED IN EXAMS

Type 4.

Five years ago, the sum of the age of Father and Son was 60 years. The ratio of present ages is 4: 1. What is the present age of the father?

Type 5. (Difference of age always Same)

The ratio between the ages of Mother (M) and her Daughter (D) 4 years ago was 19: 5. If the difference between the ages of mother and daughter is 28 years what will be the ratio of their present age?



**BASED ON AGES-1**

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The ratio of ages of A & B is 5: 7.

The age of A after 8 yrs will be 43 yrs. Find the age of B 4 yrs before?

A & B की आयु का अनुपात 5: 7 है। 8 वर्ष के बाद A की आयु 43 वर्ष होगी। B 4 वर्ष की आयु से पहले का पता लगाएं?

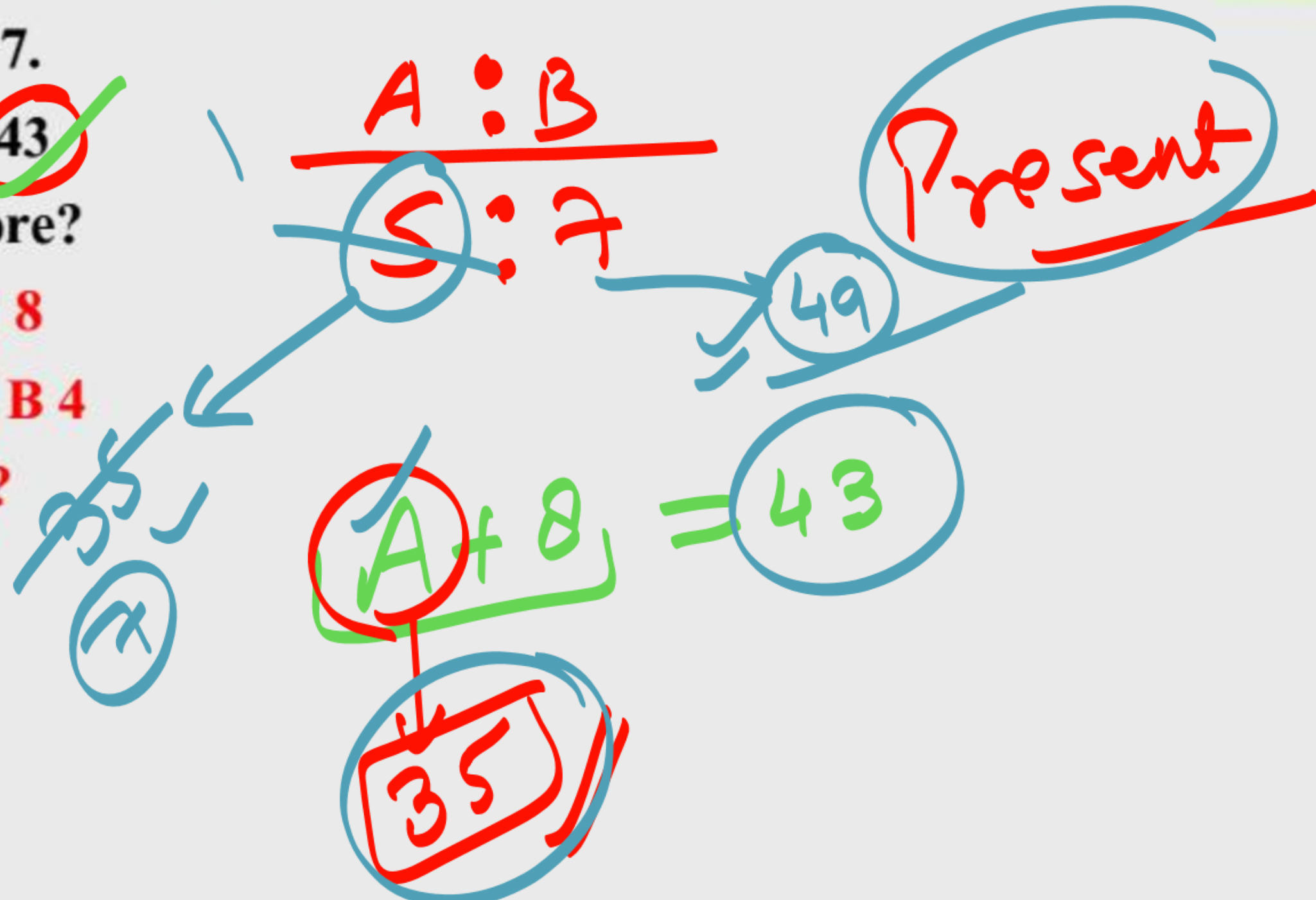
(a) 44

(b) 45

(c) 46

(d) 47

(e) None of these







The ratio of present ages of Madhu & Divya is 6 : 7. Madhu is 7 year younger than Laxmi. Laxmi's age after 8 yrs will be 51 yrs. What is the difference b/w present ages of Madhu & Divya? मधु और दिव्या की वर्तमान आयु का अनुपात 6: 7 है। मधु लक्ष्मी से 7 साल छोटी है। 8 वर्ष के बाद लक्ष्मी की आयु 51 वर्ष होंगे। मधु और दिव्या की वर्तमान आयु में क्या अंतर है?

- (a) 3 (b) 4  
(c) 5 (d) 6

(e) None of these

Handwritten solution:

Ratio:  $M : D = 6 : 7$  (Present)

Let  $M = 6x$  and  $D = 7x$

Given:  $L - M = 7$  and  $L + 8 = 51$

Solving for  $L$ :  $L + 8 = 51 \Rightarrow L = 43$

Substituting  $L = 43$  into  $L - M = 7$ :  $43 - M = 7 \Rightarrow M = 36$

Since  $M = 6x$ ,  $36 = 6x \Rightarrow x = 6$

Therefore,  $D = 7x = 7 \times 6 = 42$

The difference between present ages of Madhu and Divya is  $36 - 42 = 6$ .





The ratio of the present age of Palash to that of Arnav is 3:11. Arnav is 12 years younger than Rahim. Rahim's age after 7 years will be 85 years. What is the present age of Palash's father Who is 25 years older than Palash?

पलाश की वर्तमान आयु का अनुपात अर्नाव का अनुपात 3: 11. है। अर्नाव, रहीम से 12 वर्ष छोटा है। 7 साल बाद रहीम की उम्र 85 साल होगी। पलाश के पिता की वर्तमान आयु क्या है जो पलाश से 25 साल बड़े है?

- (a) 43 years (b) 67 years (c) 45 years (d) 69 years (e) None of these

$$\begin{array}{l}
 P : A \\
 \hline
 3 : 11 \\
 \downarrow \\
 6 \times \\
 \boxed{18} + 25 \\
 \boxed{43}
 \end{array}
 \quad
 \begin{array}{l}
 78 \\
 \downarrow \\
 R - A = 12 \\
 R + 7 = 85 \\
 \downarrow \\
 \boxed{78}
 \end{array}$$





Five years ago, the average age of Simi's age that time and Tia's age that time was 17 years. Five years from now the respective ratio between Simi's age and Tia's age at that time will be 4:5. What is Simi's present age? पांच साल पहले, सिमी की औसत आयु उस समय और टिया की आयु उस समय 17 वर्ष थी। अब से पाँच वर्ष बाद, सिमी की आयु और उस समय टीया की आयु के बीच का अनुपात 4: 5 होगा। सिमी की वर्तमान आयु क्या है?

- (a) 22 years (b) 19 years  
(c) 15 years (d) 22 years  
(e) None of these

$$A = \frac{\text{Sum}}{N}$$

$$S + T = 34$$

+10

+10

$$-548$$

+20

$$54$$

$$+548$$

$$\frac{S}{4} : \frac{T}{5} = 4 : 5$$

$$24$$

$$30$$





The present ages of three colleagues are in proportions  $3:5:7$ . Four years ago, the sum of their ages was 48. find their present ages (in years)?

तीन सहकर्मियों की वर्तमान आयुएँ 3: 5: 7 में हैं। चार साल पहले, उनकी आयु का योग 48 था। उनकी वर्तमान आयु (वर्षों में) है?

- (a) 12, 20, 28 (b) 22, 20, 28  
(c) 12, 10, 28 (d) 12, 20, 18  
(e) None of these

$$\begin{array}{r} A : B : C \\ \hline 3 : 5 : 7 \end{array}$$

12      20      28

$A + B + C = 48$

+4      +4      +4

+12

~~60~~

4



The ratio between the present ages of A and B is 3 : 5 respectively. If the difference between B's present age and A's age after 7 year is 3 .what is the sum of A's and B's present age ? **A और B की वर्तमान आयु के बीच का अनुपात क्रमशः 3: 5 है। यदि B की वर्तमान आयु और 7 वर्ष के बाद A के बीच का अंतर 3 है तो A और B की वर्तमान आयु का कुल योग क्या है?**

40

- A) 10 years      B) 30 years      C) 40 years  
D) 45 years



Sneha is 8 years older than her cousin. Her cousin is 24 years younger than his mother. If the ratio between the ages of Sneha and her cousin's mother is 7 : 11. What will be the age of Sneha's cousin after 3 years? स्नेहा अपने चचेरे भाई से 8 साल बड़ी है। उसका चचेरा भाई अपनी माँ से 24 साल छोटा है। यदि स्नेहा और उसके चचेरे भाई की माँ की आयु के बीच का अनुपात 7: 11. है, तो स्नेहा के चचेरे भाई की आयु 3 वर्ष के बाद क्या होगी?

- a) 21 years      B 20 years  
26 years      ☒ D 23 years  
E None of these

Handwritten solution:

$$S - C = 8$$

$$M - C = 24$$

$$S - (M - 24) = 8$$

$$S - M = 8 - 24$$

$$S - M = -16$$

Ratio:  $S : M = 7 : 11$

Unit = 4

Values: 28, 44

Final answer: 20





When Ramesh was born, his father was 32 yrs older than his brother & his mother was 25 yrs older than his sister. If Ramesh's brother is 6 yrs older than Ramesh & his mother is 3 yrs younger than his father, how old was Ramesh's

sister when Ramesh was Born? जब रमेश का जन्म हुआ, उसके पिता अपने भाई से 32 वर्ष बड़े थे और उसकी माँ उसकी बहन से 25 वर्ष बड़ी थी। यदि रमेश का भाई रमेश से 6 साल बड़ा है और उसकी माँ उसके पिता से 3 साल छोटी है, तो रमेश के जन्म के समय रमेश की बहन की आयु कितनी थी?

(a) 15

(b) 10 (c) 20 (d) 25 (e)

None of these

Handwritten notes and calculations:

- $F - B = 32$  (with a circled 6 above it)
- $M - S = 25$
- $B - R = 6$
- $F - M = 3$
- $R = 20$  (circled in pink)
- Other numbers: 38, 35, 10, 38, 35





Veena's present age is three times her son's present age and two fifth of her father's present age. The average of present age of all of them is 46 yrs. What is the difference between the

Veena's son's present age and Veena's father's present age? वीना की वर्तमान आयु उनके पुत्र की वर्तमान आयु से तीन गुना और उसके पिता की वर्तमान आयु का पाँचवाँ भाग है। इन सभी की वर्तमान आयु का औसत 46 वर्ष है। वीना के बेटे की वर्तमान आयु और वीना के पिता की वर्तमान आयु में क्या अंतर है?

H.W

- (a) 78 yrs (b) 88 yrs  
(c) 58 yrs  
(d) None of the Above (e) None of these





Thank you

