

Arithmetical Reasoning

25

P.9 Nov-15

$$B = ?$$

1. $B - 3 = E$

$$B + 3 = D$$

$$A + B = D + E + 10 \Rightarrow B + 3 + B - 3 + 10 \Rightarrow 2B + 10$$

$$B = C + 2 \Rightarrow C = B - 2$$

$$A + B + C + D + E = 133$$

$$\Rightarrow 2B + 10 + B - 2 + B + 3 + B - 3 = 133$$

$$\Rightarrow \boxed{B = 25}$$

2. $B - 3 = A \Rightarrow 35 - 3 = A$

$$C = ?$$

$$D + 5 = E$$

$$A + C = 2E \Rightarrow 32 + C = 2 \times 30 \Rightarrow \boxed{C = 28}$$

$$B + D = A + C \Rightarrow B + 25 = 2 \times 30 \Rightarrow B = 35$$

$$A + B + C + D + E = 150$$

$$2E + 2E + E = 150$$

$$5E = 150$$

$$E = 30$$

$$\Rightarrow D = E - 5$$

$$= 30 - 5 = 25$$

$$\Rightarrow A + C = 2E$$

$$\boxed{C = 28}$$

3. $H = M = x$

$$4x + \frac{x}{2}(2) = 70$$

$$5x = 70$$

$$x = 14$$

5.

x $\rightarrow$ $\boxed{\text{women}} \frac{1}{3} \text{ of } x \rightarrow \boxed{\text{Married}} \frac{1}{2} \text{ of } (\frac{1}{3} \text{ of } x) \rightarrow \boxed{\text{children}} \frac{1}{3} (\frac{1}{2} \text{ of } \frac{1}{3} \text{ of } x)$ $\rightarrow \textcircled{1}$

x $\rightarrow$ $\boxed{\text{men}} \frac{2}{3} \text{ of } x \rightarrow \boxed{\text{Married}} \frac{3}{4} \text{ of } (\frac{2}{3} \text{ of } x) \rightarrow \boxed{\text{children}} \frac{2}{3} \text{ of } (\frac{3}{4} \text{ of } \frac{2}{3} \text{ of } x)$ $\rightarrow \textcircled{2}$

Solving eq ① and ②

$$\left. \begin{aligned} \frac{1}{3} \times \frac{1}{2} \times \frac{1}{3} \times x &= \frac{x}{18} \\ \frac{2}{3} \times \frac{3}{4} \times \frac{2}{3} \times x &= \frac{x}{3} \end{aligned} \right\} \frac{x}{3} + \frac{x}{18} = \frac{7x}{18}$$

$$\therefore \text{Not having children} = x - \frac{7x}{18} = \frac{11}{18} x$$

6. Daughters age = x years $\Rightarrow$ 23 years

Son's age = $(x+7)$ years

Father's age = $3x$

Mother's age = $3x-9 \Rightarrow 3(23)-9 \Rightarrow 60$ years

$$S = \frac{M}{2}$$

$$x+7 = \frac{3x-9}{2}$$

$$x = 23 \text{ years}$$

7. Ravi's age at birth time = 0 years

Ravi's brother age = 3 years

Ravi's sister age = $4+3 = 7$ years

Ravi's father age = $28+7 = 35$ years $- 3 = 32$ years

Ravi's mother age = 26 years $- 3 = 23$ years.

8. Rahul's age at birth time = 0 years

Rahul brother's age = 6 years

Rahul father's age = $32+6 = 38$ years

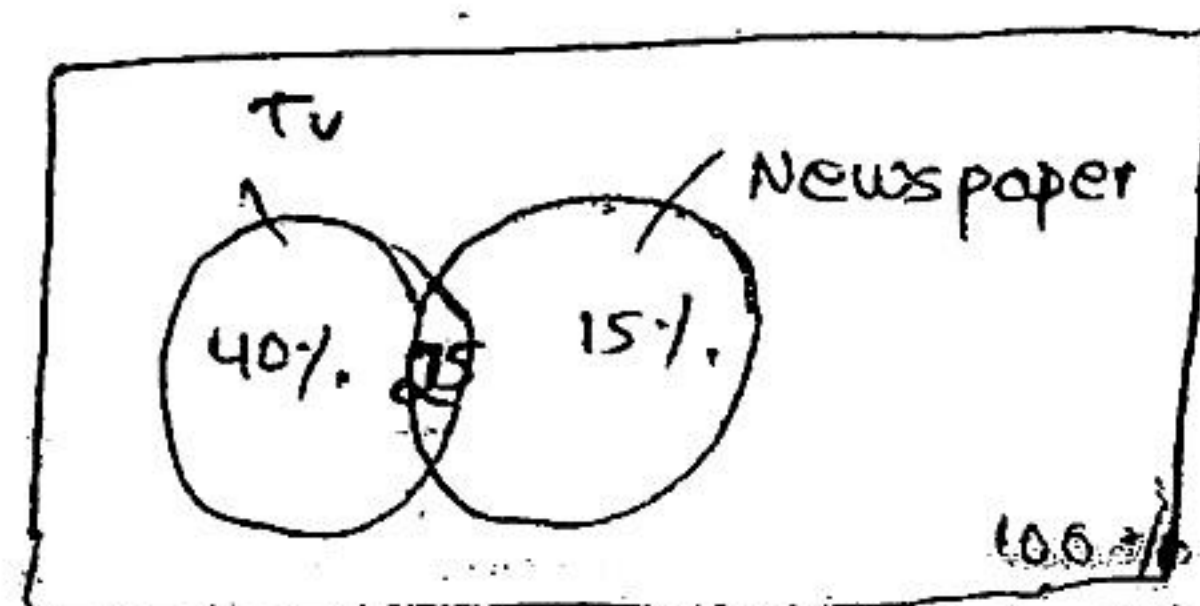
Rahul mother's age = $38-3 = 35$ years

At the birth time of his sister = 25 years

$\therefore$ Rahul sister age = 10 years

<u>S</u>	<u>M</u>
25	50
10	35
5	30
0	25

$$9. 100\% - (40 + 25 + 15) = 20\%$$

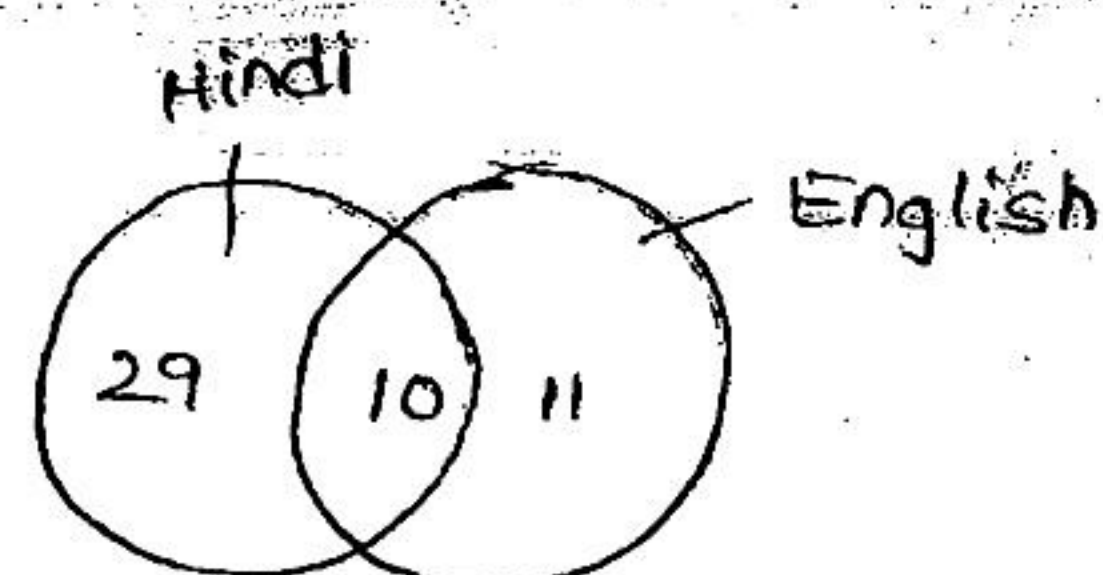


10. Total = $50 - 21 = 29$

Hindi = 39

Only Hindi = 29

Only English = 11



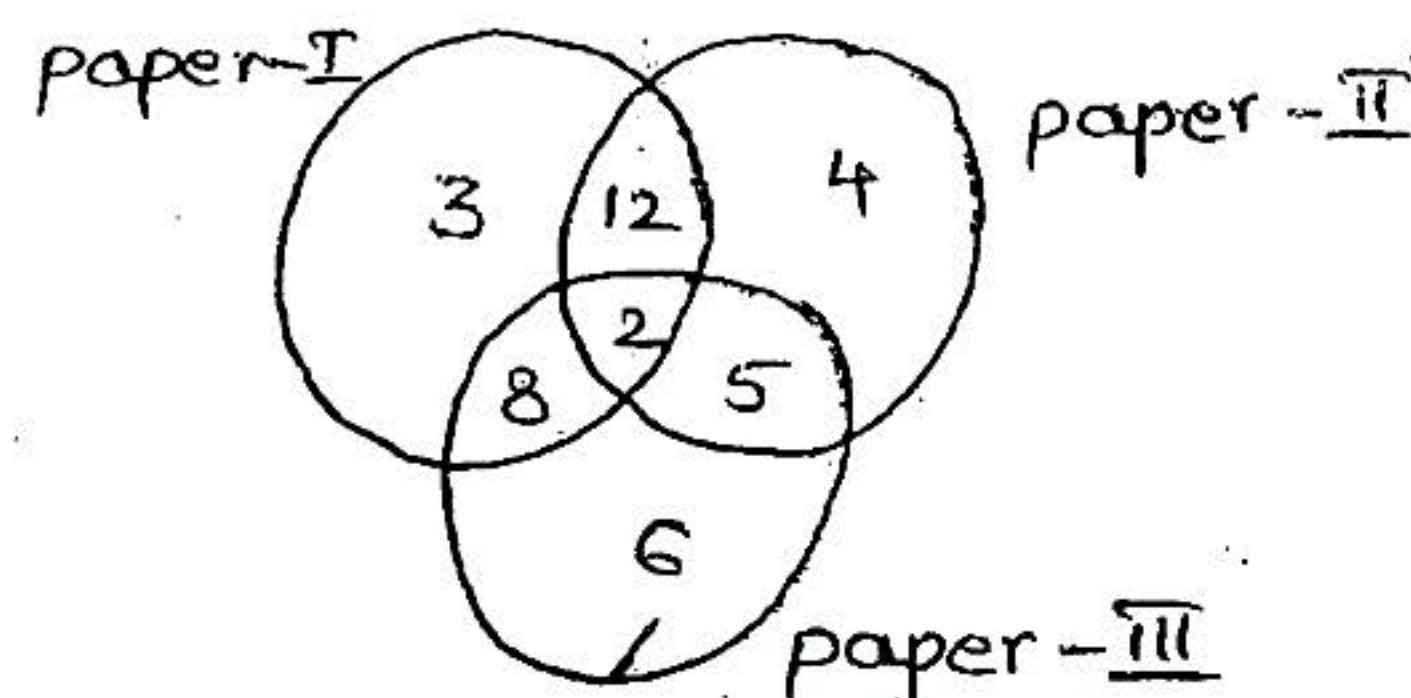
11. Atleast two papers = $12 + 8 + 5 + 2$
 $= 27$

50 persons $\rightarrow 27$

1 person $\rightarrow \frac{27}{50}$

10,000 $\rightarrow ?$

$\frac{27}{50} \times 10,000 = 5400$



12. All three = $\frac{5}{100} \times 120$

= 6

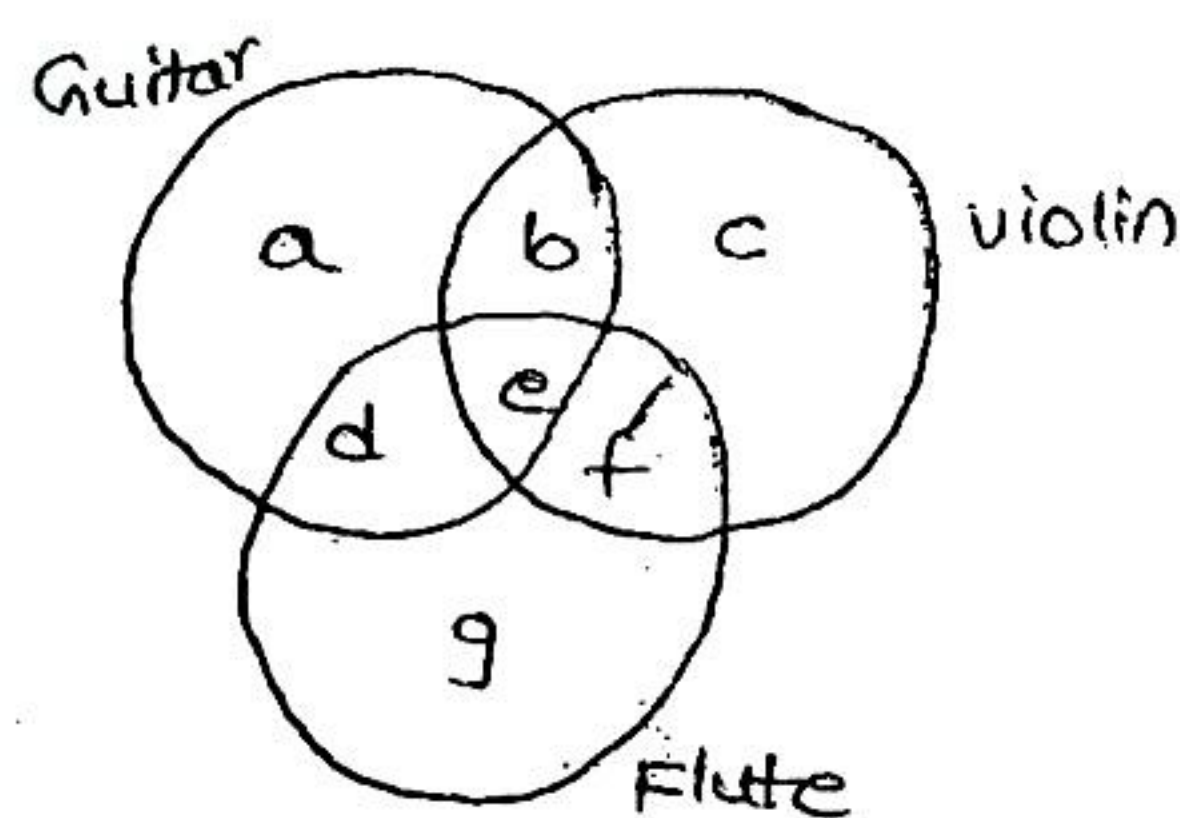
$b + d + f = 30$

$a = 40$

$a + b + c + d + e + f + g = 120$

$40 + 30 + 6 + c + g = 120$

$c + g = 44$



13. planned to go picnic = x

Attended to picnic = $x - 4 \Rightarrow 12 - 4 = 8$

They spend 96 Rs on eatables

$\frac{96}{x-4} = \frac{96}{x} = 4$

$96 \left[\frac{x - x + 4}{x(x-4)} \right] = 4$

$x^2 - 4x - 96 = 0$

$x(x-12) + 8(x-12) = 0$

$x = 12, -8$

8 people attended.