

PARTNER SHIP

P.9 NO. 63

1.	A	B	C
	35,000	45,000	55,000
	7	9	11
	(7x1500)	(9x1500)	(11x1500)
	10500	15500	16500

profit = 40,500

27 p = 40,500

1 p = 1500

2.	yogesh	pranab	Ashok
	45000x12	60000x9	90000x3
	2	2	1

profit = 20,000

Sp = 20,000

1 p = 4000

↓
(1x4000)
= 4000

3.	A	B	C	
	40	80	120	→ 1 st month
	40	40	120	→ 2 nd month B withdraws 40
	40	40	40	→ 3 rd month 'C' withdraws 80
	120	160	280	
	3	4	7	

4.

	<u>Sekhar</u>	<u>Rajeev</u>	<u>Jatin</u>
1999 →	25000		
2000 →	35000	35000	
2001 →	45000	35000	35000
/	<u>105000</u>	<u>70000</u>	<u>35000</u>
	3	2	1

$$\downarrow$$

$$2 \times 25000$$

$$= 50,000$$

$$\text{profit} = 1,50,000$$

$$6p = 150000$$

$$1p = 25000$$

P.g No:- 64

1.	<u>A</u>	<u>B</u>	<u>C</u>
	16000 × 3	12000 × 3	
	11000 × 9	17000 × 9	31000 × 6
	<u>147000</u>	<u>189000</u>	<u>176000</u>
	7	9	6

$$\text{profit} = 26,400$$

$$22p = 26400$$

$$1p = 1200$$

$$3p = 3(1200)$$

$$= 3600$$

$$2. \quad 2A = 3B \Rightarrow A:B = \left(\frac{3}{2} : 1 \right)$$

$$B = 4C \Rightarrow B:C = (4:1)$$

$$\text{profit} = 16500$$

$$11p = 16500$$

$$1p = 1500$$

$$A:B:C = 12:8:2$$

$$6:4:1$$

$$\downarrow$$

$$4(1500) = 6000 \text{ RS.}$$

5.

<u>A</u>	<u>B</u>
12000	20,000
3	5

$$\textcircled{A} \rightarrow 10\% \text{ profit} = \frac{9600}{960}$$

$$8640$$

$$8p = 8640$$

$$1p = 1080$$

$$A \rightarrow w + \pi$$

$$\downarrow$$

$$960 + 3(1080)$$

$$= 4200$$

7.

Investmentprofit

<u>A</u>		<u>B</u>		<u>A</u>		<u>B</u>
14	:	15	::	7	:	6
↓		↓				
10 months		x				

$$14 \times 10 \times 6 = 15 \times x \times 7$$

$$x = 8 \text{ months.}$$

AVERAGES

$$1. \text{ Average (A)} = \frac{\text{Sum of Quantities (S)}}{\text{No. of Quantities (N)}}$$

$$S = N \times A$$

$$N = \frac{S}{A}$$

2. 1 to n, consecutive 'n' natural numbers

$$S = \frac{n(n+1)}{2}$$

$$N = n$$

$$A = \frac{n(n+1)}{2 \times n}$$

$$A = \frac{n+1}{2}$$

$$= \frac{\text{Last no.} + 1}{2}$$

$$A = \frac{\text{Last no.} + \text{First no.}}{2}$$

3. 1 to n, consecutive 'n' odd numbers

Eg:- 1, 3, 5, 7, 9 → Total 5 no's = n

$$A = \frac{25}{5} = 5$$

$$\boxed{A = n}$$

4. 1 to n, consecutive 'n' even numbers

Eg:- 2, 4, 6, 8, 10

$$A = \frac{30}{5} = 6$$

5. Any consecutive 'n' natural numbers

No. of numbers = odd

Eg:- 50, 51, (52), 53, 54

Average = 52

6. Any consecutive, 'n' natural numbers

No. of numbers = even

Eg:- 50, 51, 52, 53, 54, 55

A = 52.5

7. Combined or Group or weighted average

$n_1 \rightarrow x_1$

$n_2 \rightarrow x_2$

$n_3 \rightarrow x_3$

$\vdots$

$$A = \frac{n_1 x_1 + n_2 x_2 + n_3 x_3 + \dots}{n_1 + n_2 + n_3 + \dots}$$

P.9 No:- 67

1. Grand parents

A = 67 years

N = 2

parents

A = 35 years

N = 2

Grand children

A = 6 years

N = 3

$$A = \frac{67 \times 2 + 35 \times 2 + 6 \times 3}{2 + 2 + 3}$$

$$= 31 \frac{5}{7} \text{ years}$$

2. Sunday

A = 510

N = ?

Other days

A = 240

N = ?

$$A = \frac{510 \times 5 + 240 \times 25}{30}$$

= 285

1 - Sunday,

7 - days

8 - Sunday₂

7

15 - S₃

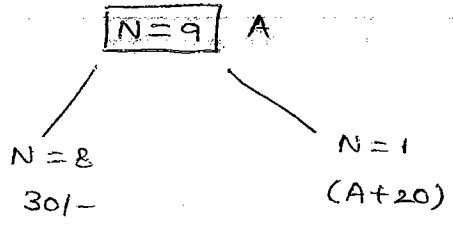
7

22 - S₄

7

29 - S₅

3.



$$\frac{8 \times 30 + 1 \times (A+20)}{9} = A$$

$$A = \frac{260}{8}$$

$$= 32.50$$

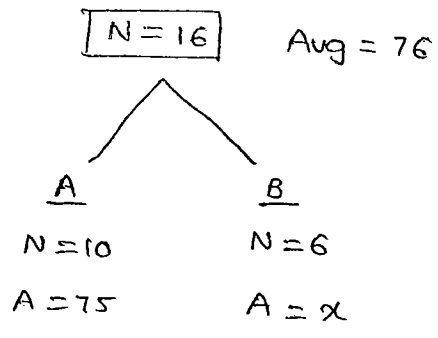
$$A = 32.50$$

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

$$= 32.50 \times 9$$

$$= 292.50 \text{ RS.}$$

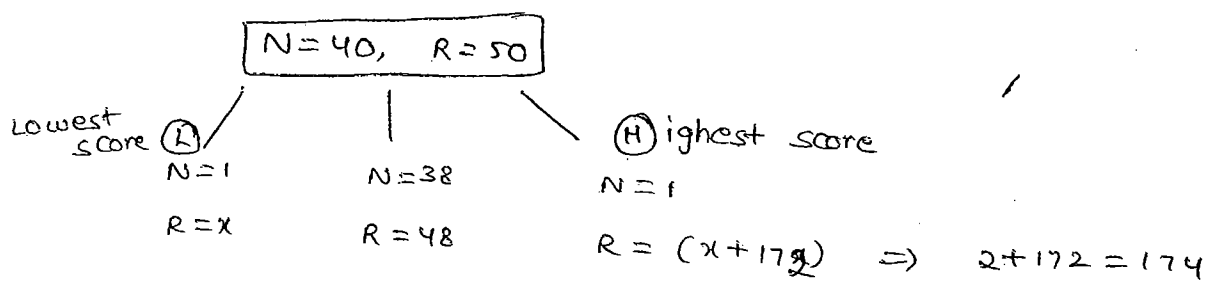
4.



$$\frac{75 \times 10 + 6 \times x}{16} = 76$$

$$x = 77 \frac{2}{3}$$

5.



$$\frac{1 \times x + 38 \times 48 + 1 \times (x+172)}{40} = 50$$

$$x = 2$$

6.

$$\left(\frac{I+II}{2} \right) - \left(\frac{II+III}{2} \right) = 15$$

$$\frac{I + II - II + III}{2} = 15$$

7. $\begin{array}{ccc} \text{1^{st} \text{ day} & & \text{5^{th} \text{ day} \\ 7 & : & 8 \\ / & & \downarrow \\ & & 8 \times 8^\circ \\ & & = 64^\circ \end{array}}}$

$1, 2, 3, 4 \rightarrow A = 58, \text{ sum} = 4 \times 58 = 232$

$2, 3, 4, 5 \rightarrow A = 60, \text{ sum} = 4 \times 60 = 240$

$1^{\text{st}} - 5^{\text{th}} = -8$

$5^{\text{th}} - 1^{\text{st}} = 8^\circ$

8. $N = 36 \rightarrow A = 17 \text{ years}$

Teacher $\leftarrow T = +1 \rightarrow A = +1$

$N = 37$ $A = 18 \text{ years}$

Summation of Teachers (S_T) $= 37 \times 18 = 666 \text{ years}$

Summation of Students (S_S) $(-) = 612 \text{ years}$

$54 \text{ years} = \text{Teacher's age}$

Note:-

$\begin{array}{r} 17 \text{ years (Avg age)} \\ + \\ 37 \text{ years (Teacher added to group)} \\ \hline 54 \text{ years} \end{array}$

Level-2:-

1. $35 \rightarrow 1800$

$125 \times 36 \rightarrow 4500$

6300

3. $\begin{array}{c} \boxed{N=11} \quad A \\ \swarrow \quad \searrow \\ \boxed{C} \quad \boxed{W} \quad N=9 \\ N=1 \quad N=1 \quad (A-1) \\ 26 \text{ yrs} \quad 29 \text{ yrs} \end{array}$

$\frac{1 \times 26 + 1 \times 29 + 9(A-1)}{11} = A$

$A = 23 \text{ years}$

4. $\boxed{N=45, A=52 \text{ kg}} + \frac{2}{3} = 52 - \frac{2}{3}$

$\begin{array}{ccc} / & & \backslash \\ (-ve) & & (+ve) \\ N=5 & & N=5 \\ A=48 \text{ kg} & & A=54 \text{ kg} \end{array}$

$5 \times 6 = \frac{30}{45} = \frac{2}{3}$

5.

 $(A, B, C) = 84 \text{ kg}$ $(A, B, C, D) = 80 \text{ kg}$ $(B, C, D, E) = 79 \text{ kg}$

$$A+B+C = 84 \times 3$$

$$= 252 \text{ kg}$$

$$(-) 177$$

$$A = 75 \text{ kg}$$

$$A+B+C+D = 80 \times 4$$

$$= 320 \text{ kg}$$

$$(-) 252$$

$$D = 68 \text{ kg}$$

$$B+C+D+E = 79 \times 4$$

$$\downarrow \downarrow = 316 \text{ kg}$$

$$68 \quad 71 \quad (-) 139$$

$$B+C = 177 \text{ kg}$$

6.

$$N = ? \quad A = 63$$

$$\rightarrow G = +20$$

$$H = +2$$

$$63 \times N + 20 + 2 = 65 \times N$$

$$2N = 22$$

$$N = 11$$

$$N = ? \quad A = 65$$