## **SOLUTIONS**

1. (a) Average weight
$$1500 + 1250 + 1350 + 750$$

$$= \frac{+950 + 700 + 400 + 500}{8}$$

$$=\frac{7400}{8}=925 \text{ gm}.$$

3. (d) A : B : C Total 3 5 
$$7 \rightarrow 15$$
 ATQ,

Total age = 15 unit 
$$\rightarrow$$
 25 × 3  
1 unit = 5

- Yongest boys = 3 unit  $\rightarrow$  15 yrs. (b) Sale on 5th day =  $(6050 \times 5)$ - (5445 + 5937 + 5865 + 6562) = (30,250 - 23809)
  - (c) Weight of new student  $= 53 - 50 \times \frac{1}{2} = 28 \text{ kg}$

= Rs.6441

- (a) Weight of (A + B + C) = 231Weight of (A + B) = 136Weight of (B + C) = 166
  - Weight of B = [(A + B) + (B + C)] - (A + B + C)
  - = 136 + 166 231=71 kg
- 7. (a) Avg. weight of 16 students  $=\frac{8\times48+4\times44+4\times58}{16}$

$$\Rightarrow \frac{384 + 176 + 232}{16} = \frac{792}{16} = 49.5$$

- 8. (d) Correct average  $= 39 + \frac{(65-56)}{45} = 39 + \frac{1}{5} = 39.2$
- (b) Avg. =  $\frac{2+3+5+7+11+13}{}$
- (c) Let, average of 15 members be

$$\frac{30,000-x}{7500} = \frac{35}{15} = \frac{7}{3}$$
$$\Rightarrow 90,000-3x = 52500$$

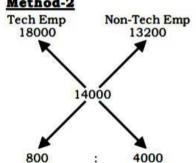
 $\Rightarrow$  3x = 37500  $\Rightarrow$  x = 12500 (b)

Total Tech Remaining Emp: x 5 x-5Avg: 14000 18000 13200 ATQ,  $5 \times 18000 + (x - 5) \times 13200$ 

 $= x \times 14000$ On solving, x = 30

## Method-2

11.



- 1 Unit = 5
- 6 units = 30 The total employees = 30
- 12. (d) Total rings =  $6 \times 38 = 228$ After removing the blue basket, Total rings =  $34 \times 5 = 170$ Rings in blue basket = 228 -170
- = 58 13. (c)  $8^{th}$  Result =  $15 \times 21 - (7 \times 21)$  $+7 \times 20) = 315 - 287 = 28$
- 14. (d) New Average =  $36 + \left(\frac{70 36}{17}\right)$ = 36 + 2 = 38
- 15. (a) Average of all girls  $=\frac{25\times11.2+15\times10}{25+15}=\frac{430}{40}=10.75$

## Method-2

Average = 
$$10 + \frac{25 \times 1.2}{40}$$
  
=  $10 + 0.75 = 10.75$  years

16. (d) Given, ratio = 7:8:9 Total = 24 units

Total height =  $56 \times 3 = 168$ cm 24 units = 168 cm 1 units = 7 cm

- Hence, The heights of student will be: 49 cm, 56 cm and 63 cm
- 17. (c) Age of class teacher  $= 17 + (2 \times 10) = 37$  years
- 18. (c) Number of people in the group  $=\frac{83\text{kg}-63\text{kg}}{500\text{g}}=\frac{20000\text{g}}{500\text{g}}=40$
- 19. (d)

	Initially	Left	Join
No. of student	45	6	8
Average	52	40	43

New Average
$$= \frac{45 \times 52 + (8 \times 43 - 6 \times 40)}{45 - 6 + 8}$$

$$2340 + 344 - 240 \quad 2444$$

$$= \frac{2340 + 344 - 240}{47} = \frac{2444}{47} = 52$$
20. (b) Average all student

$$=\frac{95\times30+85\times10}{40}=92.5$$

- 21. (d) Total First Last No. 12 4 5
  - 39 40 35 Avg. Deviation =  $4 \times 1 + 5 \times (-4) = -16$

$$V : VI : VII (x+5) : (x+11) : x$$

Thus,  $x + 5 + x + 11 + x = 39 \times 3 + 16$  $3x + 16 = 39 \times 3 + 16$  $3x = 39 \times 3$ x = 39

Average of V and VI number

$$= \frac{x+5+x+11}{2} = x+8 = 47$$
22. (c) A + B + C = 65 × 3 = 195 kg.

A + B = 
$$63.5 \times 2 = 127 \text{ kg}$$
  
A + C =  $67.5 \times 2 = 135 \text{ kg}$   
A + B + A + C =  $127 + 135$   
 $2A + B + C = 262 \text{ kg}$ 

Weight of A = 
$$262 - 195 = 67 \text{ kg}$$

23. (a)  $A + B + C = 70 \times 3 = 210 \text{ kg}$  $A + B + C + D = 60 \times 4 = 240 \text{ kg}$ 

$$D = 240 - 210 = 30 \text{ kg}$$
  
 $E = 30 + 5 = 35 \text{ kg}$ 

$$B + C + D + E = 59 \times 4 = 236 \text{ kg}$$
  
 $B + C = 236 - 30 - 35 = 171 \text{ kg}$ 

$$A + B + C = 210 \text{ kg}$$

$$A + B + C = 210 \text{ kg}$$
  
 $A = 210 - 171 = 39 \text{ kg}$ 

$$x : 2x : 6x$$
  
 $x + 2x + 6x_{-30}$ 

$$\frac{x+2x+6x}{3} = 30$$

$$9x = 90$$

$$x = 10$$

Difference between A and C = 6x - x = 5x = 50

E = 35 kg

Average of A, D and E  
= 
$$\frac{39 + 30 + 35}{3} = \frac{104}{3}$$

E = 35 kg

$$14x = 14014 \times 3$$
  
 $x = 3003$ 

Heigest price of chair (7)  $= 3003 \times 7 = Rs.21021$ 27. (d)  $M + W + F = 41 \times 3 = 123$ °C

 $W + Th + F = 42 \times 3 = 126$ °C

28.

Avg. 39 40 35  
Deviation = 
$$4 \times 1 + 5 \times (-4) = -16$$
  
V : VI : VII

$$(x+5)$$
:  $(x+11)$ :  $x$   
 $x+5+x+11+x=39\times3+16$ 

$$3x + 16 = 39 \times 3 + 16$$
  
 $x = 39$ 

$$=\frac{x+11+x}{2}=x+5.5=44.5$$

29. (a) 
$$A + B + C = 65 \times 3 = 195 \text{ kg}$$

$$B + C = 61.5 \times 2 = 123 \text{ kg}$$

$$A + C = 68.5 \times 2 = 137 \text{ kg}$$
  
 $B + C + A + C = 123 + 137$ 

$$A + B + 2C = 260 \text{ kg}$$

$$C = 260 - 195 = 65 \text{ kg}$$
  
30. (c) Total age of 40 students

Age of remaining 5 students = 110 - 55 = 55 years Average age of remaining 5 students =  $\frac{55}{5}$  = 11 years

$$= \frac{93 - 63}{0.5} = \frac{30}{0.5} = 60$$
32. (c) Required run rate per over

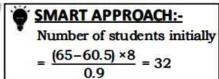
$$= \frac{282 - (2 \times 4.5)}{30} = \frac{192}{30} = 6.4$$
33. (a) Let the number of students in

class is x  
ATQ, 
$$60.5x + 8 \times 65 = (60.5 + 0.9)(x + 8)$$

$$\Rightarrow$$
 60.5x + 520 = 61.4 (x + 8)

$$\Rightarrow 60.5x + 520 = 61.4x + 491.2$$
$$\Rightarrow 0.9x = 28.8 \Rightarrow x = 32$$

The number of student in the class initially was = 32



34. (b) Sum of 'N' number = 
$$42x$$
  
New sum of n number =  $42x +$ 

$$\left\{x \times \frac{3}{4} \times 4\right\} - \left\{x \times \frac{1}{4} \times 8\right\}$$
$$= 42x + 3x - 2x$$

$$=\frac{43x}{x}$$
 = 43

= 43x

Avg. 72 69 74  
Deviation = 
$$4 \times (-3) + 3 \times (+2)$$

$$= -6$$
Let the 9<sup>th</sup> number is x.

8th 9th 10th 
$$x + 6$$
  $x$   $x - 6$   
So,  $3x = 72 \times 3 + 6$ 

$$\Rightarrow x = \frac{222}{3} = 74$$

9th no. = 74, 8th no. = 
$$x + 6 = 80$$

Avg of 8<sup>th</sup> and 9<sup>th</sup> number
$$= \frac{74 + 80}{2} = \frac{154}{2} = 77$$

Boys Girls 69.3 59.4 63.8 4.4 5.5

Number of Boys in class

$$= \frac{44}{99} \times 100\% = 44\frac{4}{9}\%$$

37. (b) ATQ,

$$n \times 40 + 1 \times 80 = (n + 1) \times 41$$
  
 $\Rightarrow 40n + 80 = 41n + 41 \Rightarrow n = 39$ 

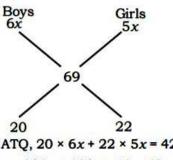
38. (c)

Total First Next 11 No. 78 63 Avg. Deviation =  $4 \times (+10) + 4 \times (-5)$ 9th 10th 11th 2xx-4x

A.T.Q,  $4x - 4 = 68 \times 3 - 20$  $\Rightarrow 4x = 184 \Rightarrow x = 47$ 

Required Average = 
$$\frac{9^4 + 11}{2}$$
  
=  $\frac{94 + 57}{2}$  = 70.5

39. (b)



ATQ,  $20 \times 6x + 22 \times 5x = 42 \times 69$  $\Rightarrow 120x + 110x = 42 \times 69$ 

$$\Rightarrow 230x = 42 \times 69$$

= 75.6 Marks

 $\Rightarrow x = \frac{42 \times 69}{230} = 12.6$ Avg. score of boys =  $6x = 6 \times 12.6$ 

40. (d) Given, Batsman scored in 15Th Inning = 92

Average score of 14 inning is  $= 92 - 15 \times 4 = 32$ 

New Average = 32 + 4 = 36

41. (c)

Avg of 19 number = 22.8Avg of next 10 number = 18.4 Avg of last 10 number = 28.6 Deviation =  $-4.4 \times 10 + 5.8 \times 10$ 

After Excluding the 10th number, the average of remaining number

will be = 
$$22.8 - \frac{14}{18} = 22(Appx.)$$

- 42. (d) Let the age of teacher = x year ATQ,  $24 \times 15.5 + 1 \times x = 25(x - 24)$  $\Rightarrow$  372 + 1x = 25x - 600
  - $\Rightarrow$  972 = 24x  $\Rightarrow x = 40.5$
- 43. (a)

Total First Next 5 4 No. 12 56 58 60 Avg.

Deviation = 
$$5 \times (-2) + 4 \times (+2)$$
  
=  $-2$ 

10th 11th 12th x + 4x + 1

So, 
$$3x + 5 = 58 \times 3 + 2$$

$$\Rightarrow 3x + 5 = 174 + 2$$

$$\Rightarrow 3x = 176 - 5$$
$$\Rightarrow x = 57$$

Avg. of 10th and 12th number

$$=\frac{61+58}{2}=\frac{119}{2}=59.5$$