DAY-5

01) The avg wt of 16 boys is 50.25 kg & that of remaining 8 boys is 45.15 kg. Find avg wt of all boys

↳ for 16 boys → $\dfrac{Sum}{total} = 50.25$

$$Sum = 50.25 \times 16$$
$$= 100.5 \times 8 = 201 \times 4$$
$$= 804$$

for rest 8 boys → $\dfrac{Sum}{total} = 45.15$

$$Sum = 45.15 \times 8$$
$$= 90.3 \times 4 = 361.2$$

Avg wt $= \dfrac{361.2 + 804}{16+8} \times 100$

$$= \dfrac{1165.2}{24} \times 100 = \dfrac{116520}{24}$$

$\begin{array}{r} 47.55 \\ 24+30 \\ 58260 \\ 116520 \end{array}$

02) A library has an avg of 510 visitors on Sundays & 240 on other days. What is avg no. of visitors per day in month of 30 days start with Sunday is

Ans Starting with Sunday,

$\{1, 8, 15, 22, 29\} = 5$ Sundays

$+ 25$ rest days

$\rightarrow$ Avg $= \dfrac{5 \times 510 + 25 \times 240}{30}$

$= \dfrac{2550 + 6000}{30} = \dfrac{8550}{30}$

$= 285$

$\begin{array}{r} 240 \\ \times 25 \\ \hline 1260 \\ +480 \\ \hline 6000 \end{array}$

Q3 A pupil's marks were wrongly entered as 83 instead of 63. Due to that avg marks for class got inc by half $(1/2)$. The no. of pupils in class is?

A $\dfrac{\text{sum}}{\text{total}} \qquad \dfrac{\text{sum} + 20}{\text{total}} = \dfrac{1}{2}$

$\dfrac{2 \text{ sum} + \text{total}}{2 \text{ total}} = \dfrac{\text{sum} + 20}{\text{total}}$

$2 \text{ sum} + \text{total} = 2 \text{ sum} + 40$

$\text{total} = 40$

Verify

$\left(\dfrac{\text{sun}}{40}\right) + \dfrac{1}{2} = \left(\dfrac{\text{sun} + 20}{40}\right) \qquad \dfrac{2 \text{ sum} + 40}{80} = \dfrac{\text{sum} + 20}{40}$

$\;\;\;\llcorner \text{avg}(63) \qquad\qquad \llcorner \text{avg}(83)$

$40 = 40$

Q4 In Arun's opinion, his wt is > 65 kg but < 72kg. His brother does not agree with Arun & he thinks his wt is > 60 but < 70. His mother's view is that his wt cannot be > 68.

If all are correct, what is avg of diff possible wt

Aus

Let x be wt of Arun

① $65 < x < 72$

② $60 < x < 70$

③ $x < 68$

$65 < x < 68$

if all are correct

$$x = \{ 66, 67, 68 \}$$

$$avg = \frac{66 + 67 + 68}{3} = 67$$

Q5 A car owner buys petrol at Rs 7.50, 8 8.50 per litre for 3 successive years. What is approx avg cost per litre if he spends Rs 4000 each year

Ans

year 1 = ₹4000 at 7.50/l

year 2 = ₹4000 at 8

year 3 = ₹4000 at 8.5

Qty of petrol = $\frac{4000}{7.5} + \frac{4000}{8} + \frac{4000}{8.5}$

$$= \frac{8000}{15} + 500 + \frac{8000}{17}$$

$$= 533.33 + 500 + 470.58$$

$$= 1503.91$$

Now, total ₹ spend

$$= 4000 \times 3$$

$$\text{Avg cost/l} = \frac{4000 \times 3}{1503.91}$$

$$\approx \overset{8}{\cancel{12000}} \qquad \approx 8$$
$$\cancel{1500}$$

options → ⓐ 7.98 ✓

ⓑ 8 ✗

ⓒ 8.5

ⓓ 9

470.58

$$17\overline{)8000}$$
$$\underline{-68\downarrow}$$
$$120$$
$$\underline{-119\downarrow}$$
$$100$$
$$\underline{-85}$$
$$150$$
$$\underline{-136}$$
$$14$$