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(a) Given Data

Percentage of winning matches = 60%
No of lost matches = 24

To Find

No of total matches played
in the year

Calculation

Percentage of lost matches = 40%
No of lost matches = 24
Let total matches be 'x'

$$40\% x = 24$$

$$\frac{40}{100} x = 24$$

100

$$2x = 24$$

5

$$2x = 120$$

$$x = 60$$

(b) Given Data

- 30 persons use 40 kg of
sugar in 10 days

- 8 persons to use 32 kg
of sugar

To Find

number of days of consumption
of sug 32kg by 8 persons

Calculations

Let no. of days to be find as x

Persons	kg of sugar	No. of days
30	40	10
80	320	x

Comparing

$$\frac{30}{80} \times \frac{320}{40} = \frac{x}{10}$$

$$3 = \frac{x}{10}$$

$$x = 30 \text{ days}$$

(c). Given Data

Total amount = \$370

To find

Ratio of each amount

Calculation

Let three parts be 'x', 'y', and 'z'

$$y = \frac{1}{4} z \quad \text{--- (1)}$$

Ratio b/w $x : z = 3 : 5$

$$\frac{x}{z} = \frac{3}{5}$$

$$\frac{x}{z} = \frac{3}{5}$$

$$x = \frac{3}{5} z \quad \text{--- (2)}$$

Sum of all parts = \$370

Adding all parts

$$x + y + z = 370$$

$$\frac{3}{5}z + \frac{1}{4}z + z = 370$$

$$\frac{5}{5}z + \frac{1}{4}z + z = 370$$

$$12z + 5z + 4z = 370$$

$$21z = 370$$

$$z = \frac{370}{21}$$

$$z = 17.619$$

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Using value of z in eq (1)

$$x = 3z$$

$$= 3(17.619)$$

$$= 52.857$$

$$x = 52.857$$

x = 52.857

Using value of z in eq (2)

$$y = \frac{1}{4}z$$

$$= \frac{1}{4}(17.619)$$

$$y = 4.405$$

So these parts are 17.619, 52.857, and 4.405

(d).

Solution

Arithmetic mean of 6 numbers = 20

$$A.M = \frac{\text{Sum of observations}}{\text{No. of observations}}$$

$$20 = \frac{\text{Sum}}{6}$$

$$\text{Sum of 6} = 120 \quad \text{--- (1)}$$

Similarly, for average of 5 numbers

$$15 = \frac{\text{Sum}}{5}$$

$$\text{Sum of 5} = 75 \quad \text{--- (2)}$$

Subtracting eq (2) from eq (1)

$$= 120 - 75$$

$$6^{\text{th}} \text{ no} = \underline{45}$$