Linear Equations in One Variable Ex 9.4 Q16

Answer :

Let the total number of guests be x.

Therefore, the number of guests, who drank colas, would be $\frac{1}{4}$x.

The number of guests, who drank squash, would be $\frac{1}{3}$x.

The number of guests, who drank fruit juice, would be $\frac{2}{5}$x.

The number of guests, who did not drink, would be 3.

According to the question,

$$x - \left(\frac{x}{4} + \frac{x}{3} + \frac{2x}{5}\right) = 3$$

$$\text{or } \frac{60x - 15x - 20x - 24x}{60} = 3$$

$$\text{or } x = 180$$

Thus, total number of guests $= 180$.

Linear Equations in One Variable Ex 9.4 Q17

Answer :

Let the number of correctly answered questions be x.

Therefore, the number of unattempted or wrongly answered questions will be $\left(180 - x\right)$.

According to the question,

$$4x - 1\left(180 - x\right) = 450$$

$$\text{or } 5x = 450 + 180$$

$$\text{or } x = \frac{630}{5} = 126$$

Thus, number of correctly answered questions $= 126$.

Number of unattempted or wrongly answered questions $= 180 - 126 = 54$.

Linear Equations in One Variable Ex 9.4 Q18

Answer :

Let the number of days for which the labourer is absent be x.

Therefore, the number of days for which he is present will be $\left(20 - x\right)$.

$$\therefore \text{ Earnings } = \text{ Rs. } 60\left(20 - x\right)$$

$$\text{Fine } = \text{ Rs. } 5x$$

According to the question,

$$60\left(20 - x\right) - 5x = 745$$

$$\text{or } 1200 - 60x - 5x = 745$$

$$\text{or } 65x = 1200 - 745$$

$$\text{or } x = \frac{455}{65} = 7$$

Thus, the labourer was absent for 7 days.

Linear Equations in One Variable Ex 9.4 Q19

Answer :

Let the weight of box A be x kg.

Therefore, the weights of box B and box C will be $\left(x + 3\frac{1}{2}\right)$ kg and $\left(x + 3\frac{1}{2} + 5\frac{1}{3}\right)$ kg, respectively.

According to the question,

$x + \left(x + 3\frac{1}{2}\right) + \left(x + 3\frac{1}{2} + 5\frac{1}{3}\right) = 60\frac{1}{2}$

or $3x = \frac{121}{2} - \frac{7}{2} - \frac{7}{2} - \frac{16}{3}$

or $3x = \frac{363 - 21 - 21 - 32}{6}$

or $3x = \frac{289}{6}$

or $x = \frac{289}{18}$

Thus, weight of box A $= \frac{289}{18}$ kg

Linear Equations in One Variable Ex 9.4 Q20

Answer :

Let, the denominator of the rational number be x.

$\therefore$ The numerator of the rational number will be $x - 3$.

$\therefore$ The rational number $= \frac{x-3}{x}$

According to the question,

$\frac{x - 3 + 2}{x + 5} = \frac{1}{2}$

or $\frac{x - 1}{x + 5} = \frac{1}{2}$

or $2x - 2 = x + 5$

or $2x - x = 5 + 2$

or $x = 7$

$\therefore$ The rational number $= \frac{7 - 3}{7} = \frac{4}{7}$

********** END **********