



Fractions Ex 2.1 Q10

Answer :

Let x be the required fraction.

According to the question:

$$\begin{aligned}x + 5\frac{4}{15} &= 12\frac{3}{5} \\ \Rightarrow x + \frac{(15 \times 5) + 4}{15} &= \frac{(12 \times 5) + 3}{5} \\ \Rightarrow x &= \frac{63}{5} - \frac{79}{15} \\ \text{LCM of 5 and 15 is 15.} \\ \Rightarrow x &= \frac{(63 \times 3) - (79 \times 1)}{15} \Leftrightarrow \frac{110}{15} \\ \Rightarrow x &= \frac{110}{15} \Leftrightarrow \frac{22}{3}\end{aligned}$$

Fractions Ex 2.1 Q11

Answer :

Suman studies for $5\frac{2}{3}$ hours daily. Therefore, we have

$$5\frac{2}{3} \text{ hours} = \frac{(5 \times 3) + 2}{3} = \frac{17}{3} \text{ hours}$$

She studies science and mathematics for $2\frac{4}{5}$ hours. Therefore, we have

$$2\frac{4}{5} \text{ hours} = \frac{(2 \times 5) + 4}{5} = \frac{14}{5} \text{ hours}$$

Time devoted to other subjects = Total study time — Time devoted to science and mathematics

$$\begin{aligned}&= \frac{17}{3} - \frac{14}{5} = \frac{(17 \times 5) - (14 \times 3)}{15} \\ &= \frac{43}{15} \text{ hours}\end{aligned}$$

Fractions Ex 2.1 Q12

Answer :

Let the length of second piece be x .

Total length of wire = Length of one piece + Length of second piece

$$\begin{aligned}12\frac{3}{4} &= 5\frac{1}{4} + x \\ \Rightarrow \frac{(12 \times 4) + 3}{4} &= \frac{(5 \times 4) + 1}{4} + x \\ \Rightarrow x &= \frac{(12 \times 4) + 3}{4} - \frac{(5 \times 4) + 1}{4} \\ \Rightarrow x &= \frac{51}{4} - \frac{21}{4} \Leftrightarrow \frac{30}{4} \\ \Rightarrow x &= \frac{30}{4} \Leftrightarrow \frac{15}{2}\end{aligned}$$

Fractions Ex 2.1 Q13

Answer :

Perimeter of rectangle = $2(\text{length} + \text{width})$

$$\begin{aligned}&2 \times \left[12\frac{1}{2} + 10\frac{2}{3} \right] \\ &= 2 \times \left[\frac{(12 \times 2) + 1}{2} + \frac{(10 \times 3) + 2}{3} \right] \\ &= 2 \times \left[\frac{(25 \times 3) + (32 \times 2)}{6} \right] \\ &= 2 \times \left[\frac{139}{6} \right] \\ &= \frac{139}{3} \text{ cm}\end{aligned}$$

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