Operations on Rational Numbers Ex 5.4 Q11

**Answer :**

The cost of $2\frac{1}{3} = \frac{7}{3}$ metres of cloth = Rs. $75\frac{1}{4} = \frac{301}{4}$.

The cost of 1 metre of cloth = Rs. $\frac{301}{4} \div \frac{7}{3} = \frac{301}{4} \times \frac{3}{7} = \frac{43\times7}{4} \times \frac{3}{7} = \frac{129}{4} = 32\frac{1}{4}$.

Operations on Rational Numbers Ex 5.4 Q12

**Answer :**

Let $x$ be the number required.

Then, we have

$$\frac{-33}{16} \div x = \frac{-11}{4}$$

$$\Rightarrow \frac{-33}{16} \times \frac{1}{x} = \frac{-11}{4}$$

$$\Rightarrow \frac{-33}{16} \times \frac{4}{-11} = x$$

$$x = \frac{-3\times11}{4\times4} \times \frac{4}{-11} = \frac{3}{4}$$

Operations on Rational Numbers Ex 5.4 Q13

**Answer :**

The sum of $\frac{-13}{5}$ and $\frac{12}{7}$ is

$$\frac{-13}{5}+\frac{12}{7}=\frac{-13\times7}{5\times7}+\frac{12\times5}{7\times5}=\frac{-91}{35}+\frac{60}{35}$$
$$=\frac{-91+60}{35}=\frac{-31}{35}$$

The product of $\frac{-31}{7}$ and $\frac{-1}{2}$ is

$$\frac{-31}{7}\times\frac{-1}{2}=\frac{31}{14}$$

Then, according to the question, we have

$$\frac{-31}{35}\div\frac{31}{14}=\frac{-31}{35}\times\frac{14}{31}=\frac{-2}{5}$$

Operations on Rational Numbers Ex 5.4 Q14

**Answer :**

The sum of $\frac{65}{12}$ and $\frac{8}{3}$ is

$$\frac{65}{12}+\frac{8}{3}=\frac{65}{12}+\frac{8\times4}{3\times4}=\frac{65}{12}+\frac{32}{12}=\frac{65+32}{12}=\frac{97}{12}$$

The difference of $\frac{65}{12}$ and $\frac{8}{3}$ is

$$\frac{65}{12}-\frac{8}{3}=\frac{65}{12}-\frac{8\times4}{3\times4}=\frac{65}{12}-\frac{32}{12}=\frac{65-32}{12}=\frac{33}{12}$$

According to the question, we need to divide the first figure by the second:

$$\frac{97}{12}\div\frac{33}{12}=\frac{97}{12}\times\frac{12}{33}=\frac{97}{33}$$

Operations on Rational Numbers Ex 5.4 Q15

**Answer :**

Total cloth given = 54 metres

Total number of pairs of trousers made = 24

Length of cloth required for each pair of trousers = $\frac{54}{24}=\frac{9\times6}{4\times6}=\frac{9}{4}$ **metres.**

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