Exercise 1G

Q1

Answer :

Length of the rope when two pieces of lengths $2\frac{3}{5}$ m and $3\frac{3}{10}$ m are cut off = Total length of the rope - Length of the two cut off pieces

$\therefore 11-\left(2\frac{3}{5}+3\frac{3}{10}\right)$

Now,

$$2\frac{3}{5}+3\frac{3}{10} \Rightarrow \left(2+\frac{3}{5}\right)+\left(3+\frac{3}{10}\right)$$
$$=\frac{13}{5}+\frac{33}{10}$$

LCM of 5 and 10 is 10, i.e., $(5\times 1\times 2)$.

We have :

$\frac{(13\times 2)+(33\times 1)}{10}$

$=\frac{26+33}{10}$

$=\frac{59}{10}$

$\therefore 2\frac{3}{5}+3\frac{3}{10}=\frac{59}{10}$

Length of the remaining rope $=11-\frac{59}{10}$

$=\frac{110-59}{10}$

$=\frac{51}{10}$

$=5\frac{1}{10}$ m

Therefore, the length of the remaining rope is $5\frac{1}{10}$ m.

Q2

Answer :

Weight of rice in the drum = Weight of the drum full of rice - Weight of the empty drum

$=40\frac{1}{6}-13\frac{3}{4}$

$=\left(40+\frac{1}{6}\right)-\left(13+\frac{3}{4}\right)$

$=\frac{241}{6}-\frac{55}{4}$

$=\frac{241}{6}+\left(\text{Additive inverse of } \frac{55}{4}\right)$

$=\frac{482-165}{12}$

$=\frac{317}{12}$

$=26\frac{5}{12}$ kg

Therefore, the weight of rice in the drum is $26\frac{5}{12}$ kg.

Q3

Answer :

Weight of pears in the basket = Weight of the basket containing three types of fruits - (Weight of apples + Weight of oranges)

$=19\frac{1}{3}-\left(8\frac{1}{9}+3\frac{1}{6}\right)$

Now,

$$\left(8\frac{1}{9}+3\frac{1}{6}\right)\Rightarrow\left(8+\frac{1}{9}\right)+\left(3+\frac{1}{6}\right)$$
$$=\frac{73}{9}+\frac{19}{6}$$

LCM of 9 and 6 is 18, that is, $(3\times3\times2)$.

We have :

$\frac{(73\times2)+(19\times3)}{18}$

$=\frac{146+57}{18}$

$=\frac{203}{18}$

$\therefore 8\frac{1}{9}+3\frac{1}{6}=\frac{203}{18}$

Weight of pears in the basket = $19\frac{1}{3}-\frac{203}{18}$

$$=\left(19+\frac{1}{3}\right)-\frac{203}{18}$$
$$=\frac{58}{3}-\frac{203}{18}$$
$$=\frac{58}{3}+\left(\text{Additive inverse of }\frac{203}{18}\right)$$
$$=\frac{348-203}{18}$$
$$=\frac{145}{18}$$
$$=8\frac{1}{18}\text{ kg}$$

Therefore, the weight of the pears in the basket is $8\frac{1}{18}$ kg.

Q4

Answer :

Money saved by the rickshaw puller = Total money earned - (Earnings spent on tea and snacks + Earnings spent on food + Earnings spent on repairs)

$$=80-\left(13\frac{3}{5}+25\frac{1}{2}+4\frac{2}{5}\right)$$
$$=80-\left(\left(13+\frac{3}{5}\right)+\left(25+\frac{1}{2}\right)+\left(4+\frac{2}{5}\right)\right)$$
$$=80-\left(\frac{68}{5}+\frac{51}{2}+\frac{22}{5}\right)$$

Now,

$\frac{68}{5}+\frac{51}{2}+\frac{22}{5}=\frac{(68\times2)+(51\times5)+(22\times2)}{10}$

$=\frac{136+255+44}{10}$

$=\frac{435}{10}$

$=\frac{87}{2}$

$\therefore\frac{68}{5}+\frac{51}{2}+\frac{22}{5}=\frac{87}{2}$

Money saved by the rickshaw puller $=80-\frac{87}{2}$

$$=80+\left(\text{Additive inverse of }\frac{87}{2}\right)$$
$$=\frac{160-87}{2}$$
$$=\frac{73}{2}$$
$$=\text{Rs }36\frac{1}{2}$$

Therefore, the amount of money saved by the rickshaw puller is Rs $36\frac{1}{2}$.

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