

Exercise - 4.5

A. Find the difference :-

15. $2\frac{3}{8} - 1\frac{1}{4}$

$$= \frac{2 \times 8 + 3}{8} - \frac{1 \times 4 + 1}{4}$$

$$= \frac{19}{8} - \frac{5}{4}$$

Now LCM of 4 and 8 is 8 (as 4 is a factor of 8)

So $\frac{19}{8} = \frac{19}{8}$

$$\frac{5}{4} = \frac{5 \times 2}{4 \times 2} = \frac{10}{8}$$

Now $\frac{19}{8} - \frac{10}{8}$

$$= \frac{19 - 10}{8}$$

$$= \frac{9}{8}$$

$$= 1\frac{1}{8}$$

Ans. The required difference is $\frac{9}{8}$ or $1\frac{1}{8}$.

16. $12\frac{3}{4} - \frac{7}{15}$

$$= \frac{12 \times 4 + 3}{4} - \frac{7}{15}$$

$$= \frac{51}{4} - \frac{7}{15}$$

LCM of 4 and 15 is $15 \times 4 = 60$ (As 4 and 15 are co-prime numbers)

So $\frac{51}{4} = \frac{51 \times 15}{4 \times 15} = \frac{765}{60}$

$$\begin{array}{r} 51 \\ \times 15 \\ \hline 255 \\ + 510 \\ \hline 765 \end{array}$$

$$\frac{7}{15} = \frac{7 \times 4}{15 \times 4} = \frac{28}{60}$$

$$\text{Now } \frac{765}{60} - \frac{28}{60}$$

$$\frac{765 - 28}{60}$$

$$= \frac{737}{60}$$

Ans. The required difference is $\frac{737}{60}$

B. ① Fraction of eggs Andrew had = $\frac{2}{3}$ dozen

Fraction of eggs he used = $\frac{1}{6}$ dozen

Fraction of eggs left with him = $\left(\frac{2}{3} - \frac{1}{6}\right)$ dozen

LCM of 3 and 6 is 6 (as 3 is a factor of 6)

$$\text{So } \frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{4}{6}$$

$$\frac{1}{6} = \frac{1}{6}$$

$$\text{Now } \frac{4}{6} - \frac{1}{6} = \frac{4-1}{6}$$

$$= \frac{3}{6}$$

$$= \frac{3 \div 3}{6 \div 3}$$

$$= \frac{1}{2}$$

Ans: - He was left with $\frac{1}{2}$ dozen eggs.

2. Quantity of milk in the house = 4L

Quantity of milk was left = $1\frac{1}{4}$ L

Quantity of milk was used = $4L - 1\frac{1}{4}L$
 $= \frac{4}{1}L - \frac{1\frac{1}{4}}{1}L$

$$= \left(\frac{4}{1} - \frac{1 \times 4 + 1}{4} \right) L$$

$$= \left(\frac{4}{1} - \frac{5}{4} \right) L$$

LCM of 1 and 4 is 4 (As 1 is a factor of 4)

$$\text{So } \frac{4}{1} = \frac{4 \times 4}{1 \times 4} = \frac{16}{4}$$

$$\frac{5}{4} = \frac{5}{4}$$

$$\text{Now } \left(\frac{16}{4} - \frac{5}{4} \right) L$$

$$= \left(\frac{16-5}{4} \right) L$$

$$= \frac{11}{4} L$$

$$= 2\frac{3}{4} L$$

Ans. $2\frac{3}{4}$ L milk was used.

(3) Length of thread in the reel = $20\frac{1}{2}$ m

Length of thread used = $4\frac{1}{4}$ m

Length of thread left = $20\frac{1}{2}$ m - $4\frac{1}{4}$ m

$$= \left(\frac{20 \times 2 + 1}{2} - \frac{4 \times 4 + 1}{4} \right) m$$

$$= \left(\frac{41}{2} - \frac{17}{4} \right) m$$

LCM of 2 and 4 is 4 (as 2 is a factor of 4)

$$\text{So } \frac{41}{2} = \frac{41 \times 2}{2 \times 2} = \frac{82}{4}$$

$$\frac{17}{4} = \frac{17}{4}$$

$$\text{Now } \left(\frac{82}{4} - \frac{17}{4} \right) m$$

$$= \left(\frac{82 - 17}{4} \right) m$$

$$= \frac{65}{4} m$$

$$= 16 \frac{1}{4} m$$

Ans. $16 \frac{1}{4} m$ thread is left in the reel.