

"Fractions And Decimals."

"Ex-2.3"

Q.1. Find (i) $\frac{1}{4}$ of (a) $\frac{1}{4}$ (b) $\frac{3}{5}$ (c) $\frac{4}{3}$

Sol. (a) $\frac{1}{4}$ of $\frac{1}{4} = \frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$.

(b) $\frac{1}{4}$ of $\frac{3}{5} = \frac{1}{4} \times \frac{3}{5} = \frac{3}{20}$.

(c) $\frac{1}{4}$ of $\frac{4}{3} = \frac{1}{4} \times \frac{4}{3} = \frac{1}{3}$.

Q.2. Multiply and reduce to lowest form.

(i) $\frac{2}{3} \times 2\frac{2}{3}$ (ii) $\frac{3}{8} \times \frac{6}{4}$ (iii) $\frac{4}{5} \times \frac{12}{7}$

Sol. (i) $\frac{2}{3} \times 2\frac{2}{3} = \frac{2}{3} \times \frac{8}{3} = \frac{16}{9} = 1\frac{7}{9}$.

(ii) $\frac{3}{8} \times \frac{6}{4} = \frac{3}{8} \times \frac{6}{4} = \frac{9}{16}$.

(iii) $\frac{4}{5} \times \frac{12}{7} = \frac{4}{5} \times \frac{12}{7} = \frac{48}{35} = 1\frac{13}{35}$.

Q.3. Multiply the following fractions:

(i) $\frac{2}{5} \times 5\frac{1}{4}$ (ii) $6\frac{2}{5} \times \frac{7}{9}$ (iii) $\frac{3}{2} \times 5\frac{1}{3}$

Sol. (i) $\frac{2}{5} \times 5\frac{1}{4} = \frac{2}{5} \times \left(\frac{5 \times 4 + 1}{4}\right) = \frac{2}{5} \times \frac{21}{4}$
 $= \frac{42}{20} = \frac{2 \times 21}{2 \times 10} = \frac{21}{10} = 2\frac{1}{10}$

$$(ii) \quad 6\frac{2}{5} \times \frac{7}{9} = \left(\frac{6 \times 5 + 2}{5}\right) \times \frac{7}{9} = \frac{32}{5} \times \frac{7}{9}$$

$$= \frac{32 \times 7}{5 \times 9} = \frac{224}{45} = 4\frac{44}{45}$$

$$(iii) \quad \frac{3}{2} \times 5\frac{1}{3} = \frac{3}{2} \times \left(\frac{5 \times 3 + 1}{3}\right) = \frac{3}{2} \times \frac{16}{3}$$

$$= 8$$

Q.4. Which is greater:

(i) $\frac{2}{7}$ of $\frac{3}{4}$ or $\frac{3}{5}$ of $\frac{5}{8}$.

(ii) $\frac{1}{2}$ of $\frac{6}{7}$ or $\frac{2}{3}$ of $\frac{3}{7}$.

Sol. (i) $\frac{2}{7}$ of $\frac{3}{4} = \frac{2}{7} \times \frac{3}{4} = \frac{6}{28} = \frac{3}{14}$.

$\frac{3}{5}$ of $\frac{5}{8} = \frac{3}{5} \times \frac{5}{8} = \frac{3}{8}$.

Now, LCM of 14 and 8 = 56

$\therefore \frac{3}{14} = \frac{3 \times 4}{14 \times 4} = \frac{12}{56}$.

And, $\frac{3}{8} = \frac{3 \times 7}{8 \times 7} = \frac{21}{56}$.

Compare

$$\frac{12}{56} < \frac{21}{56}$$

Hence, $\frac{3}{5}$ of $\frac{5}{8}$ is greater than $\frac{2}{7}$ of $\frac{3}{4}$.

$$(ii) \quad \frac{1}{2} \text{ of } \frac{6}{7} = \frac{1}{2} \times \frac{6}{7} = \frac{6}{14} = \frac{3}{7}$$
$$\frac{2}{3} \text{ of } \frac{3}{7} = \frac{2}{3} \times \frac{3}{7} = \frac{2}{7}$$

$\left. \begin{array}{l} \frac{3}{7} \\ \frac{2}{7} \end{array} \right\} \underline{\underline{\frac{3}{7} \text{ and } \frac{2}{7}}}$

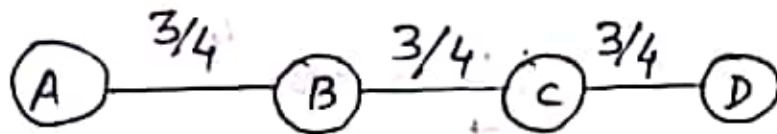
Here, $3 > 2$

$$\therefore \frac{3}{7} > \frac{2}{7}$$

Hence, $\frac{1}{2}$ of $\frac{6}{7}$ is greater than $\frac{2}{3}$ of $\frac{3}{7}$.

Q.5.

Sol. Distance between two adjacent saplings = $\frac{3}{4}$ m.



\therefore Total distance between A and D
 $= 3 \times \frac{3}{4} = \frac{9}{4} \text{ m} = \underline{\underline{2\frac{1}{4} \text{ m}}}$

Q.6.

Sol. Daily reading of a book by

$$\text{Lipika} = \underline{1\frac{3}{4} \text{ hr.}}$$

$$\text{No. of days} = \underline{6}$$

Hence, Number of hours required by Lipika to read the book = $6 \times (1\frac{3}{4})$ hours.

$$= 6 \times \left(\frac{1 \times 4 + 3}{4} \right)$$

$$= 6 \times \frac{7}{4} = \frac{42}{4} = \frac{\cancel{2} \times 21}{\cancel{2} \times 2}$$

$$= \frac{21}{2} = 10 \frac{1}{2} \text{ hrs.}$$

Q.7. Sol. Distance covered in 1 litre of petrol = 16 km.

\therefore Distance covered by $2 \frac{3}{4}$ l. of petrol =

$$= \left(2 \frac{3}{4} \times 16 \right) \text{ km}$$

$$= \frac{11}{4} \times 16$$

$$= \underline{\underline{44 \text{ km.}}}$$

Q.8. Sol.

$$\text{Sol (i)} \quad \frac{2}{3} \times \frac{?}{?} = \frac{10}{30}$$

Here, $2 \times 5 = 10$ and $3 \times 10 = 30$

$$\text{So, } ? = \frac{5}{10}$$

$$\text{(ii)} \quad \frac{3}{5} \times \frac{?}{?} = \frac{24}{75}$$

$$? = \frac{8}{15} \text{ . Ans.}$$