

6.3 Multiplying Proper Fractions

6.4 Multiplying Improper Fractions & Mixed Numbers

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When multiplying proper fractions

- 1 multiply numerators
- 2 multiply denominators

Ex #1

$$\begin{aligned} \text{a)} \quad & \frac{1}{2} \times \frac{3}{4} \\ & = \boxed{\frac{3}{8}} \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & \frac{1}{2} \times \frac{1}{2} \times \frac{2}{7} \\ & = \frac{2}{28} = \boxed{\frac{1}{14}} \end{aligned}$$

When multiplying mixed and proper fractions, change the fraction to **improper fractions** first

Ex #2

$$\begin{aligned} & 4\frac{2}{3} \times 4\frac{7}{8} && \text{1 Mixed} \rightarrow \text{improper} \\ & = \frac{14}{3} \times \frac{39}{8} && \text{2 Multiply} \\ & = \frac{546}{24} && \text{3. Reduce} \\ & = \boxed{\frac{91}{4}} = \boxed{22\frac{3}{4}} && \text{4 Change to mixed} \end{aligned}$$

Ex #3

$$\begin{aligned} \text{a)} \quad & \frac{1}{5} \times 3\frac{2}{7} \\ & = \frac{1}{5} \times \frac{23}{7} \\ & = \boxed{23} \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & \begin{array}{l} \text{length} \\ 3\frac{1}{3} \\ \hline \text{Area ?} \\ \hline \end{array} \left| \frac{2}{3} \text{ width} \right. \\ & = 3\frac{1}{3} \times \frac{2}{3} \end{aligned}$$

$$= \boxed{\frac{23}{35}}$$

$$= 3\frac{1}{3} \times \frac{2}{3}$$

$$= \frac{10}{3} \xrightarrow{\times} \frac{5}{3} = \frac{50}{9} = \boxed{5\frac{5}{9}}$$

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