

Fractions

How do I divide when I've got a mixed number and a common fraction?

- The mixed number must be changed to an improper fraction.

Example

$$2\frac{1}{4} \div \frac{1}{8} = ?$$

First, convert $2\frac{1}{4}$ to an improper fraction: $\frac{9}{4} \div \frac{1}{8} = ?$

$$\text{Invert: } \frac{9}{4} \div \frac{8}{1} = ?$$

$$\text{Multiply: } \frac{9}{4} \times \frac{8}{1} = ?$$

$$\frac{9}{\cancel{4}^1} \times \frac{\cancel{8}^2}{1} = \frac{9 \times 2}{1 \times 1} = \frac{18}{1} = \boxed{18}$$

Example

$$3\frac{2}{3} \div 1\frac{1}{2} = ?$$

First, convert $3\frac{2}{3}$ **and** $1\frac{1}{2}$ into improper fractions: $\frac{11}{3} \div \frac{3}{2} = ?$

$$\text{Invert: } \frac{11}{3} \div \frac{2}{3} = ?$$

$$\text{Multiply: } \frac{11}{3} \times \frac{2}{3} = ?$$

$$\frac{11}{3} \times \frac{2}{3} = \frac{11 \times 2}{3 \times 3} = \frac{22}{9} = \boxed{2\frac{4}{9}}$$