

# Dividing Fractions, Whole Numbers, and Mixed Numbers

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When you are dividing any combination of fractions, mixed numbers, and whole numbers, the first step is to rewrite every mixed number or whole number as an improper fraction.

## Dividing with Fractions and Whole Numbers

When you are dividing fractions with whole numbers,

- write the whole number as a fraction with a denominator of 1
- invert the divisor; then multiply the fractions

**EXAMPLE 1**  $\frac{3}{4} \div 7 =$

$$\begin{aligned} \frac{3}{4} \div 7 &= \frac{3}{4} \div \frac{7}{1} && \begin{array}{l} \downarrow \text{Invert the divisor.} \\ \frac{7}{1} \end{array} \\ &= \frac{3}{4} \times \frac{1}{7} = \frac{3}{28} && \begin{array}{l} \uparrow \text{Change the sign.} \\ \frac{1}{7} \end{array} \end{aligned}$$

**ANSWER:**  $\frac{3}{28}$

**EXAMPLE 2**  $4 \div \frac{2}{3} =$

$$\begin{aligned} 4 \div \frac{2}{3} &= \frac{4}{1} \div \frac{2}{3} && \begin{array}{l} \downarrow \text{Invert the divisor.} \\ \frac{2}{3} \end{array} \\ &= \frac{4}{1} \times \frac{3}{2} = \frac{12}{2} = 6 && \begin{array}{l} \uparrow \text{Change the sign.} \\ \frac{3}{2} \end{array} \end{aligned}$$

**ANSWER:** 6

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Divide. Simplify your answers.

1.  $\frac{5}{8} \div 2 =$

$\frac{3}{4} \div 4 =$

$\frac{2}{3} \div 5 =$

$\frac{5}{8} \div 5 =$

2.  $\frac{11}{2} \div 4 =$

$\frac{15}{12} \div 2 =$

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

$\frac{4}{3} \div 6 =$

3.  $6 \div \frac{3}{4} =$

$12 \div \frac{4}{3} =$

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

$7 \div \frac{3}{8} =$

4.  $8 \div \frac{2}{3} =$

$3 \div \frac{1}{4} =$

$4 \div \frac{3}{8} =$

$15 \div \frac{2}{3} =$

5.  $7 \div \frac{14}{3} =$

$\frac{12}{7} \div 4 =$

$3 \div \frac{9}{6} =$

$\frac{4}{3} \div 6 =$