

Multiplying Fractions

To multiply fractions, multiply the numerators and multiply the denominators. Use the rules for multiplying integers when you multiply negative fractions.

Example 1 Solve $k = -\frac{4}{7} \times \frac{5}{9}$.

$$k = -\frac{4 \times 5}{7 \times 9}$$

$$k = -\frac{20}{63}$$

*Multiply the numerators.
Multiply the denominators.*

The product of two rational numbers with different signs is negative.

Example 2 Solve $n = 3\frac{1}{3} \times 2\frac{1}{5}$.

$$n = \frac{10}{3} \times \frac{11}{5}$$

$$n = \frac{2 \times 11}{3 \times 1} = \frac{22}{3}$$

$$n = 7\frac{1}{3}$$

*Rename $3\frac{1}{3}$ as $\frac{10}{3}$. Rename $2\frac{1}{5}$ as $\frac{11}{5}$.
The GCF of 10 and 5 is 5. Divide 10 and 5 by 5.*

*Multiply the numerators.
Multiply the denominators.*

Simplify.

Solve each equation. Write the solution in simplest form.

1. $k = \frac{2}{3} \times \frac{3}{5}$

2. $-\frac{1}{2} \times \frac{7}{9} = m$

3. $-\frac{4}{7} \times \left(-\frac{7}{8}\right) = n$

4. $1\frac{1}{2} \times 1\frac{2}{3} = v$

5. $x = -2\frac{1}{4} \times \frac{2}{9}$

6. $r = -8 \times \left(-\frac{3}{4}\right)$