

ADVANCED DIVIDING FRACTIONS

Your child must master operations with fractions because they are foundational for algebra.

Fractions do not need to have the same denominator when divided.

After working through this Mathsheets, use these patterns to create additional questions for your child's practice.

A. When dividing one fraction by another, invert the second fraction and then multiply

$$\begin{array}{|c|c|} \hline 1/2 & 1/2 \\ \hline \end{array} \div \begin{array}{|c|c|} \hline 1/4 & 1/4 \\ \hline 1/4 & 1/4 \\ \hline \end{array} = \frac{1}{2} \div \frac{1}{4} = \frac{1}{2} \times \frac{4}{1} = \frac{4}{2} = \frac{2}{1} = \boxed{2}$$

Invert second fraction and multiply

Using decimals: $0.5 \div 0.25 = 2$

B. When dividing one fraction by another, invert the second fraction and then multiply

$$\begin{array}{|c|c|} \hline 1/4 & 1/4 \\ \hline 1/4 & 1/4 \\ \hline \end{array} \div \begin{array}{|c|c|} \hline 1/4 & 1/4 \\ \hline 1/4 & 1/4 \\ \hline \end{array} = \frac{3}{4} \div \frac{1}{4} = \frac{3}{4} \times \frac{4}{1} = \frac{12}{4} = \frac{3}{1} = \boxed{3}$$

Invert second fraction and multiply

Using decimals: $0.75 \div 0.25 = 3$

C. When dividing one fraction by another, invert the second fraction and then multiply

$$\begin{array}{|c|c|} \hline 1/4 & 1/4 \\ \hline 1/4 & 1/4 \\ \hline \end{array} \div \begin{array}{|c|c|} \hline 1/2 & 1/2 \\ \hline \end{array} = \frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2} = \boxed{1 \frac{1}{2}}$$

Invert second fraction and multiply

Using decimals: $0.75 \div 0.5 = 1.5$

D. When dividing one fraction by another, invert the second fraction and then multiply

Before this can be done, mixed numerals must be changed to improper fractions.

$$\begin{array}{|c|c|} \hline 1/2 & 1/2 \\ \hline \end{array} \div \begin{array}{|c|c|} \hline 1/2 & 1/2 \\ \hline \end{array} \div \begin{array}{|c|c|} \hline 1/4 & 1/4 \\ \hline 1/4 & 1/4 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 1/4 & 1/4 \\ \hline 1/4 & 1/4 \\ \hline \end{array} =$$

$$1 \frac{1}{2} \div 1 \frac{1}{4} = \frac{3}{2} \div \frac{5}{4} = \frac{3}{2} \times \frac{4}{5} = \frac{12}{10} = \frac{6}{5} = \boxed{1 \frac{1}{5}}$$

Invert second fraction and multiply

Using decimals: $1.5 \div 1.25 = 1.2$

E. When dividing one fraction by another, invert the second fraction and then multiply

Before this can be done, mixed numerals must be changed to improper fractions.

$$4 \frac{1}{2} \div 1 \frac{1}{4} = \frac{9}{2} \div \frac{5}{4} = \frac{9}{2} \times \frac{4}{5} = \frac{36}{10} = \frac{18}{5} = \boxed{3 \frac{3}{5}}$$

Invert second fraction and multiply

Using decimals: $4.5 \div 1.25 = 3.6$