

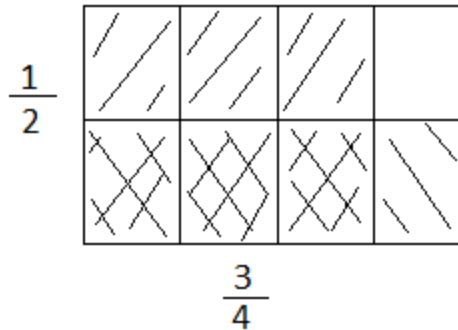
Lesson : Multiplying fractions and mixed numbers

SWBAT: Multiply fractions and mixed numbers together

Using a grid model:

This is not the method that you want to use, but it does explain how multiplying fractions work.

Ex: $\frac{1}{2} \cdot \frac{3}{4}$



- First, make a rectangle
- Show the $\frac{1}{2}$ on one side and the $\frac{3}{4}$ on the other side
- Shade one section of the $\frac{1}{2}$ and 3 sections of the $\frac{3}{4}$.

Since 3 sections are shaded in by both of the sides and there are 8 total sections, the answer will be 3 out of 8 or $\frac{3}{8}$

Multiplying fractions:

All you have to do is multiply _____ the fractions.

Ex: $\frac{3}{5} \cdot \frac{1}{2} = \frac{3}{10}$

You just multiply the numerators and then multiply the denominators!

① $\frac{2}{9} \cdot \frac{5}{7}$

② $\frac{3}{8} \cdot \frac{2}{5}$

③ $\frac{3}{4} \cdot \frac{11}{12}$

Cross Simplify (or bowtie simplify):

- To make your multiplication easier, you can _____ your problem before you multiply instead of after.
- Look at the numbers that are _____ from each other. If you can divide them both by the same thing, do that and write the new numbers.

Ex: $\frac{16}{5} \cdot \frac{25}{8}$

$\frac{3}{6} \cdot \frac{42}{4}$

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Finding a fraction of a fraction:

- When you have a word problem, the word “of” means _____. So if you are finding a fraction “of” a fraction, just multiply them together.

Ex: Find $\frac{2}{3}$ of $\frac{6}{11}$

Multiplying whole numbers and fractions:

- First, you must turn the whole number into a _____.
- Next, just _____ like normal.

Ex: $9 \cdot \frac{5}{6} = \frac{9}{1} \cdot \frac{5}{6}$

① Find $\frac{2}{3}$ of 12

② $15 \cdot \frac{2}{5}$

Multiplying mixed numbers:

You first have to turn them into _____! After you do that, just multiply like normal.

Ex: $2\frac{2}{3} \cdot 3\frac{1}{4} = \frac{8}{3} \cdot \frac{13}{4}$

a. $10\frac{1}{4} \cdot 2\frac{3}{4}$

b. $7\frac{1}{3} \cdot 3\frac{3}{4}$