

2.1 (pg. 56) Multiplying Fractions & Mixed #'s w/ Cancellation



MATH ROCKS



Step 1



Too Easy!

Multiply Numerators.

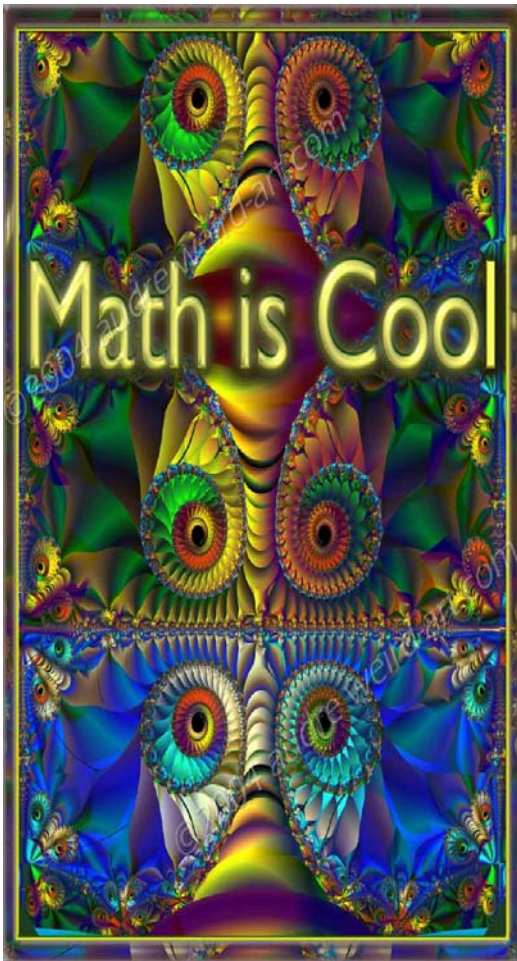
$$\frac{6}{8} \times \frac{3}{5} = \frac{18}{40} \div \frac{2}{2} = \frac{9}{20}$$

Step 2

Multiply Denominators.

Step 3

Simplify!!!



Ex.

$$\frac{5}{28} \times 4 =$$

Special Step: If multiplying a whole number, turn it into a fraction by placing it over 1.

$$\frac{5}{28} \times \frac{4}{1} = \frac{20}{28} \div \frac{4}{4} = \frac{5}{7}$$

$$\frac{4}{5} \times 6 = \frac{4}{5} \times \frac{6}{1} = \frac{24}{5}$$

If your answer ends up improper you must SIMPLIFY!

$$\frac{24}{5} \rightarrow 5 \overline{) \begin{array}{r} 24 \\ 20 \\ \hline 4 \end{array}} \rightarrow 4 \frac{4}{5}$$

← Remainder
← Divisor

Cancellation



Sweet Rides! Lots of math involved in building cars!!!



$$\frac{32}{50} \times \frac{20}{56} =$$

**HERE IS A
GNARLY
EXAMPLE!**



STEP 1

Find any **numerator** **AND** any **denominator** that have a common factor.

You can **NEVER** cancel out 2 numerators or 2 denominators!!!

$$\frac{32}{50} \times \frac{20}{56}$$

Does 32 or 20 share a common factor with 50 or 56?



STEP 2

Divide out the common factor by crossing out your numbers.

$$\begin{array}{r} 4 \quad 2 \\ \text{Ex. } \frac{\cancel{8}3\cancel{2}}{\cancel{10}5} \times \frac{\cancel{10}2\cancel{0}}{\cancel{8}5\cancel{6}7} \Rightarrow \frac{4}{5} \times \frac{2}{7} = \frac{8}{35} \\ \phantom{\text{Ex. }} \frac{5}{5} \quad \frac{7}{7} \end{array}$$

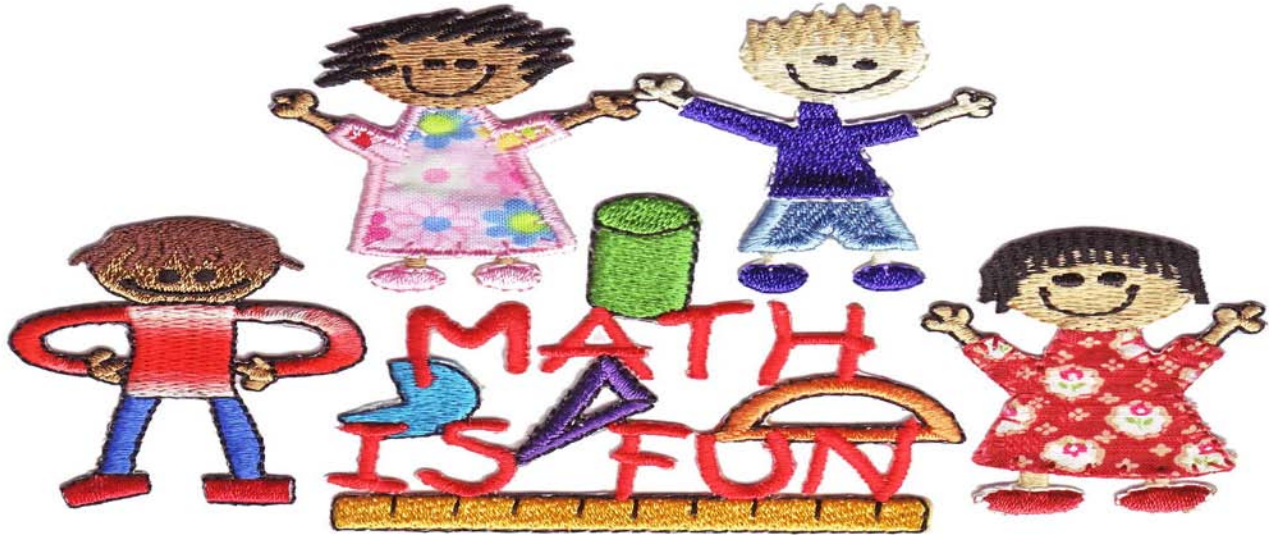
STEP 3

Multiply across for your answer.

Try these in your math notes...please!

$$\frac{6}{15} \times \frac{8}{12} = \quad \frac{5}{28} \times \frac{7}{25} =$$

Multiplying Mixed Numbers



Our Example:

$$5\frac{1}{3} \times 1\frac{1}{4} =$$

Step 1

Change the mixed numbers into improper fractions.



**WHO REMEMBERS
HOW TO DO THAT?**

To change a mixed number into an improper fraction...

1. Multiply the whole number by the denominator.
2. Add this number to the numerator.
3. Put this number over the original denominator.

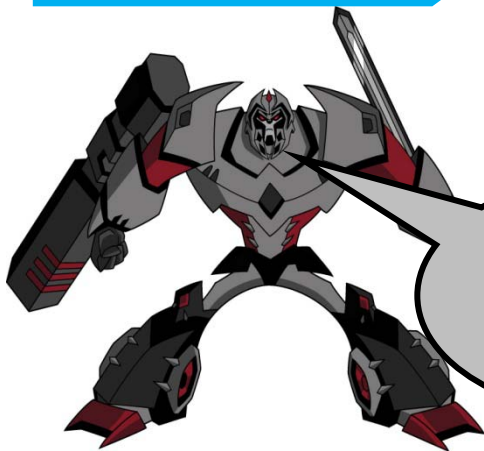
**EASY,
FOLLOW
THESE
STEPS!**



$$6 \frac{1}{3} \quad (6 \times 3) + 1 = 19$$

$\xrightarrow{\hspace{10em}} \frac{19}{3}$

Step 2



**I WILL
TRICK YOU
NEXT TIME!**

Use cancellation if necessary and multiply.

$$\text{Ex. } \frac{\overset{4}{\cancel{16}}}{3} \times \frac{5}{\underset{4}{\cancel{4}} \underset{1}{3}} = \frac{20}{3} \rightarrow 3 \overline{)20} \begin{array}{r} 6\frac{2}{3} \\ -18 \\ \hline 2 \end{array}$$

Try these in your math notes...please!

$$1 \frac{4}{7} \times 4 \frac{2}{3} = \quad 4 \frac{1}{6} \times 5 \frac{1}{3} =$$