

## Lesson 38: Division of Fractions

**Purpose of lesson:** You will learn how to **divide** fractions.



To divide fractions, you need to know everything about multiplication and only one (1) new step. That new step is called invert. And you only do it to the second fraction in a fraction problem with division.

**Word to Learn:** Invert means to turn a fraction upside down.  $\frac{1}{2}$  inverted is  $\frac{2}{1}$   
It's that easy!

### Steps to follow when dividing fractions:

- 1) **Invert** (turn upside down) the number on the right.
- 2) Change the sign of the problem to **x** (multiply).
- 3) Then, **multiply** as usual.
- 4) If necessary, **reduce** the answer to lowest terms, (the same as you did in other fraction problems)

This is how we use **invert**:

Examples: a)  $\frac{1}{3} \div \frac{2}{3} =$

step 1)  $\frac{1}{3} \div \frac{3}{2} =$

step2)  $\frac{1}{3} \times \frac{3}{2} =$

step 3)  $\frac{1}{3} \times \frac{3}{2} = \frac{3}{6}$

$$\text{Step 4)} \quad \frac{1}{3} \times \frac{3}{2} = \frac{3}{6} = \frac{1}{2}$$

Let's try another example:

$$\text{Example b)} \quad \frac{1}{5} \div \frac{3}{4} =$$

$$\text{step 1)} \quad \frac{1}{5} \div \frac{4}{3} =$$

$$\text{step 2)} \quad \frac{1}{5} \times \frac{4}{3} =$$

$$\text{step 3)} \quad \frac{1}{5} \times \frac{4}{3} = \frac{4}{15} \quad \text{Our answer is in lowest terms - so we are done!}$$

### Take Lesson 38 Quiz 1



**Problem solving that requires division of fractions can be a challenge.**  
***Sometimes you will need to rearrange the fractions before dividing.***  
**It's always important to put the fraction that you are dividing into first when setting up the division problem.**

Let's take a look!

It takes  $\frac{1}{10}$  of an hour to play a song on a CD. How many times can you play that song in  $\frac{3}{5}$  of an hour?

**This problem is set up in the following way:**

$$\frac{3}{5} \div \frac{1}{10} =$$

Because you are trying to find how many times  $\frac{3}{5}$  can be divided up into periods of  $\frac{1}{10}$  of an hour.

$$\frac{3}{5} \times \frac{10}{1} =$$

$$\frac{3}{5} \times \frac{10}{1} = \frac{30}{5} = 6$$

**The answer is 6 times in an hour.**

Now you try!

**Take Lesson 38 Quiz 2**