

Name: \_\_\_\_\_

## CONVERTING BETWEEN FRACTIONS, DECIMALS, AND PERCENTS DIRECTED LEARNING ACTIVITY

**Objective:** Convert between fractions, decimals, and percents.

**Activity:** You will learn how to convert fractions to decimals and percents and vice versa. Then you will practice all of these strategies in one activity at the end.

**Converting a fraction to a decimal.**

**Example 1.** Convert  $\frac{5}{8}$  to a decimal.

**Steps to convert a fraction to a decimal.**

**1. Use long division to divide the numerator by the denominator.**

$$\begin{array}{r} 0.625 \\ 8 \overline{)5.000} \\ \underline{-48} \phantom{00} \\ 20 \phantom{00} \\ \underline{16} \phantom{00} \\ 40 \phantom{00} \\ \underline{40} \phantom{00} \\ 0 \end{array}$$

Remember to put the 0 and the decimal point on top. Then add zeros as you need them to divide.

When we convert  $\frac{5}{8}$ , the decimal result is \_\_\_\_\_.

Now try one on your own!

**Example 2.** Convert  $\frac{1}{5}$  to a decimal.

**1. Use long division to divide the numerator by the denominator.**

Did you get 0.2? Great!!

**If you did not get this, check with the tutor to determine where you may have made an error.**

### **Converting a decimal to a fraction.**

**Example 3.** Convert 0.74 to a decimal.

**Steps to convert a decimal to a fraction.**

**1. Rewrite the decimal as a fraction by saying the decimal name out loud using place value.**

0.74 is “seventy-four hundredths”

$$0.74 = \frac{74}{100}$$

**2. Reduce the fraction, if necessary.**

$\frac{74}{100}$  is not reduced because both numerator and denominator can be divided by 2.

$$\frac{74}{100} = \frac{37}{50}$$

Now, try one on your own!

**Example 4.** Convert 0.88 to a decimal.

**1. Rewrite the decimal as a fraction by saying the decimal name out loud using place value.**

**2. Reduce the fraction, if necessary.**

Did you get  $\frac{22}{25}$ ? Good work!

**If you did not get this, check with the tutor to determine where you may have made an error.**

## **Convert a percent to a decimal.**

**Example 5.** Convert 59% to a decimal.

**Steps to convert a percent to a decimal.**

**1. Divide the number by 100 (percent means per 100.)**

$$59\% = \frac{59}{100}$$

Now, you could actually do this long division to get to 0.59. Or, we can read this number as “fifty-nine hundredths”, which becomes 0.59 as a decimal. Either way, notice that if we had moved the decimal two places to the left we would have gotten the same result. We can use this short-cut on future problems.

**Example 6.** Convert 33% to a decimal.

**1. Divide the number by 100 OR move the decimal two places left.**

$$33\% = 0.33$$

Now, your turn!

**Example 7.** Convert 91% to a decimal.

You should get 0.91.

**If you did not get this, check with the tutor to determine where you may have made an error.**

## **Convert a decimal to a percent.**

**Example 8.** Convert 0.45 to a percent.

Remember, to go from a percent to a decimal, we divide by 100. So, to go the other direction, from a decimal to a percent, we will multiply by 100.

**Steps to convert from a decimal to a percent.**

**1. Multiply by 100.**

$$0.45 \times 100 = 45\%$$

Notice, this is the same result as if we had moved the decimal two places right.

**Example 9.** Convert 0.17 to a percent.

**1. Multiply by 100 OR move the decimal two places right.**

$$0.17 = 17\%$$

Now, you try one!

**Example 10.** Convert 0.98 to a percent.

Did you get 98%? Fabulous!

**If you did not get this, check with the tutor to determine where you may have made an error.**

**Convert a fraction to a percent**

**Example 11.** Convert  $\frac{3}{4}$  to a percent.

**Steps to convert a fraction to a percent**

**1. Convert the fraction to a decimal using long division.**

$$\begin{array}{r} 0.75 \\ 4 \overline{)3.00} \\ \underline{28} \phantom{0} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

**2. Convert the decimal to a percent by multiplying by 100 OR moving decimal two places right.**

$$0.75 = 75\%$$

Now, your turn!

**Example 12.** Convert  $\frac{3}{5}$  to a percent.

**1. Convert the fraction to a decimal using long division.**

**2. Convert the decimal to a percent by multiplying by 100 OR moving decimal two places right.**

Did you get 0.60? Awesome!

**If you did not get this, check with the tutor to determine where you may have made an error.**

**Convert a percent to a fraction.**

**Example 13.** Convert 58% to a fraction.

**Steps to convert a percent to a fraction.**

**1. Convert the percent to a decimal by dividing by 100 OR moving the decimal two places left.**

$$58\% = 0.58$$

**2. Rewrite the decimal as a fraction by saying the decimal name out loud using place value.**

0.58 is “fifty-eight hundredths”

$$0.58 = \frac{58}{100}$$

**3. Reduce the fraction, if necessary.**

$\frac{58}{100}$  is not reduced. Both numerator and denominator can be divided by 2.

$$\frac{58}{100} = \frac{29}{50}$$

So, 58 % is  $\frac{29}{50}$ .

Your turn!

**Example 14.** Convert 68% to a fraction.

**1. Convert the percent to a decimal by dividing by 100 OR moving the decimal two places left.**

**2. Rewrite the decimal as a fraction by saying the decimal name out loud using place value.**

**3. Reduce the fraction, if necessary.**

Did you get  $\frac{17}{25}$ ? Then you are ready for the last set of problems!!

**If you did not get this, check with the tutor to determine where you may have made an error.**

After you go over the previous problems with a tutor, try the following problem, then check with a tutor to make sure you did it correctly.

Use conversions to fill in the missing values in the table:

reduced fraction	decimal	percent
	<b>0.32</b>	
		<b>23%</b>
$\frac{4}{5}$		
	<b>0.4</b>	
		<b>6%</b>
$\frac{7}{8}$		

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For tutor use: Please check the appropriate box.

- Student has completed worksheet but may need further assistance. Recommend a follow-up with instructor.
- Student has mastered topic.