

# Converting Fractions to Decimals & Percents

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

Div: \_\_\_\_\_

Date: \_\_\_\_\_

## Fraction to Decimal

- a) Divide the Numerator by the Denominator.
  - a. Stop once a pattern emerges (or the thousandths position)
- b) Turn the fraction into an equivalent fraction out of 10, 100, 1000, etc.
  - a. Place the numerator in the place value of the denominator.
    - i. 10 = tenths, 100 = hundredths

Ex.  $\frac{3}{7} = 7 \overline{) 3.000}$  ← Thousandths

$$\begin{array}{r} 0.428 \\ 7 \overline{) 3.000} \\ \underline{-28} \phantom{00} \\ 20 \phantom{0} \\ \underline{-14} \phantom{0} \\ 60 \\ \underline{-56} \\ 4 \end{array}$$

Ex.  $\frac{1}{5} \times \frac{2}{2} = \frac{2}{10} = 0.2$

← Tenths

## Decimal to Fraction

- a) Put the value you have over whatever place value the number ends at and then reduce!
  - a. A repeating decimal 0.2222... will be a fraction over 9 = ( $\frac{2}{9}$ )
  - b. Saying the decimal number can help figure out the place value
    - i.  $0.004 = \frac{4}{1000}$  = Four thousandths

Ex.  $0.375 = \frac{375}{1000}$

← Thousandths

ii.  $\frac{4}{1000} \div 4 = \frac{1}{250}$

Reduce:  $\frac{375 \div 5}{1000 \div 5} = \frac{75 \div 5}{200 \div 5}$

$$= \frac{15 \div 5}{40 \div 5} = \frac{3}{8}$$

## Fraction to Percent

- a) Either convert the fraction to a decimal [see above] and then multiply by 100 (% = 100)
  - a. Or just move the decimal **two places to the right** (x100 = 2 decimal moves)
- b) For simple fractions, change fraction into one out of 100 (percent = means "per" "cent" or /100)
  - a. Must be close enough to 100:
    - i.  $/9$  (x 11) = /99 or  $/3$  (x 33) = /99 (close enough)
    - ii.  $/4$  (x 25) = /100, etc.

Ex.  $\frac{3}{7} = 0.428$  (See Above)

$$= 0.428(100) = 42.8\%$$

Ex.  $\frac{9}{20} \times 5 = \frac{45}{100} = 45\%$

## Percent to Decimal/Fraction

- a) Take your percent and divide by 100 (remember percent = /100) to get a decimal
  - a. Or move the decimal **two places to the left!**
  - b. Then place your decimal over the place value to make a fraction
    - i. Then reduce!
- b) Place any whole number fractions over 100 and then reduce, when possible

Ex.  $125\% \div 100 = 1.25$

$\Rightarrow 1.25 = \frac{125 \div 5}{100 \div 5}$

← Hundredths

$$= \frac{25 \div 5}{20 \div 5} = \frac{5}{4} = 1\frac{1}{4}$$

Ex.  $45\%$

$$= \frac{45 \div 5}{100 \div 5}$$

$$= \frac{9}{20}$$

**NOTE:** Any fraction within a percent should be changed to a decimal before converting.

Ex.  $21\frac{1}{2}\% = 21.5\% = 0.215 = \frac{215}{1000} = \frac{43}{200}$

# Converting Fractions to Decimals & Percents

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Fill in the following chart:

<u>Fraction</u>	<u>Decimal</u>	<u>Percent</u>
$\frac{9}{7}$		
		35 %
	0.7	
$\frac{7}{9}$		
		2 %
	0.68	
$\frac{3}{5}$		
		66.666..%
	0.004	
$\frac{6}{20}$		
		4.5 %
	0.25	
$\frac{11}{25}$		
		125%

	1.125	
$\frac{36}{45}$		
		0.35 %
	0.333...	
$\frac{3}{8}$		
		305 %
	0.864	
$\frac{17}{10}$		
		$37\frac{1}{2}\%$
	0.49	
$\frac{8}{100}$		
		$125\frac{1}{8}\%$
	2.1	
$\frac{1}{6}$		

What do you notice about the numbers used in the decimals and percentages?

What is the main difference between the decimals and percentages? How does that help us with a short cut/rule for converting?