

Resource Fractions, Decimals, Percentages

Language of fractions, decimals, and percentages

There are several important vocabulary words you should know and use in this course.

- A **ratio** is a comparison of two numbers by division. You will see many different types of ratios in this course. Some ratios are a special type called a percentage. A percentage is a ratio because it is a number compared to 100.
- **Percentages** are a relationship between two values: the comparison value and the base value. The relationship is described as a percentage rate, which is shown with a percentage symbol (%). This indicates that the rate is out of 100.

Example: 10 is 20% of 50.

10 is the comparison value.

50 is the base value.

20% is the percentage rate; it can be written as a decimal by using the relationship to 100: $\frac{20}{100} = 0.20$

- Fractions have two parts: $\frac{\text{numerator}}{\text{denominator}}$
- Every fraction can be written in equivalent forms (e.g., $\frac{2}{3} = \frac{4}{6} = \frac{6}{9}$). It is often useful to write the fraction in the form with the smallest numbers. This is called *simplified form*. In the example, $\frac{2}{3}$ is in simplest form.

If you need some review on these different representations, you can view free videos on the Khan Academy website.

- https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/v/describing-the-meaning-of-percent?playlist=Developmental%2520Math

Once you locate this video, you will see other videos that can help you review percentages covering specific topics.

- The meaning of percentages
- Practice: Relate fractions, decimals, and percents.
- Practice: Convert decimals to percents.
- Practice: Convert percents to decimals.

On the next page are some common percentage benchmarks (see if you can fill in the blanks!).

Simplified Fraction	Percent	Decimal
$\frac{1}{100}$	1%	0.01
$\frac{1}{10}$		
		0.2
	25%	
$\frac{1}{3}$	3% (rounded to the nearest one percent)	0.33 (rounded to nearest hundredth)
		0.5
$\frac{2}{3}$	7% (rounded to the nearest one percent)	0.67 (rounded to nearest hundredth)
		0.75

Calculating percentage rates

If you need some review on calculating percentage rates, you can view free videos at the following links.

- https://www.khanacademy.org/math/arithmetic/decimals/percent_word_probs/v/solving-percent-problems
- <http://www.purplemath.com/modules/percntof.htm>