

# Chapter 19

## PERCENT



**PERCENT** means "per hundred." Percentages are ratios that compare a quantity to **100**. For example, **33%** means "33 per hundred" and can also be written  $\frac{33}{100}$  or **0.33**.

**SHORTCUT:** Any time you have a percent, you can put the number over 100 and get rid of the % sign. Don't forget to simplify the fraction if possible!

**EXAMPLES** of a percent as a fraction:

$$3\% = \frac{3}{100}$$

$$25\% = \frac{25}{100} = \frac{1}{4}$$

**EXAMPLES** of a fraction as a percent:

$$\frac{11}{100} = 11\%$$

$$\frac{1}{5} = \frac{20}{100} = 20\%$$

THIS IS A PROPORTION!

**EXAMPLES** of a percent as a decimal:

$$65\% = \frac{65}{100} = 0.65$$

$$6.5\% = \frac{6.5}{100} = 0.065$$

To turn a fraction into a percent, divide the **NUMERATOR** (top of the fraction) by the **DENOMINATOR** (bottom of the fraction).

**SHORTCUT:** When dividing by 100, just move the decimal point two spaces to the left!

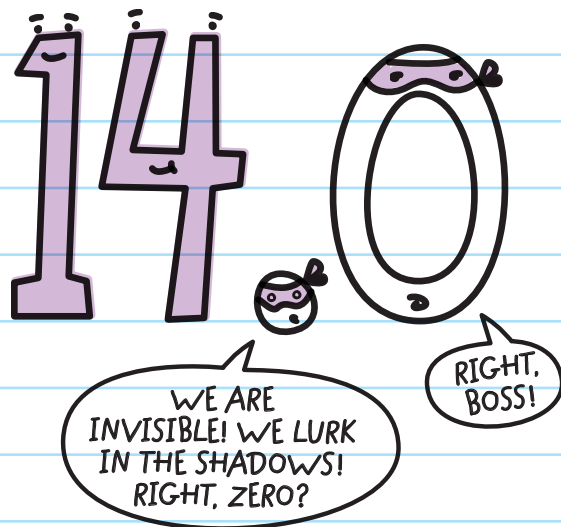
**EXAMPLE:**

$$\frac{14}{50} = 14 \div 50 = 0.28 = 28\%$$

(Once you get the decimal form of the answer, move the decimal two spaces to the right, then include the % sign at the end.)

**REMEMBER:**

Any number that doesn't have a decimal point has an "invisible" decimal point at the far right of the number: 14 is the same as 14.0.



## LET'S TRY IT AGAIN:

Five out of every eight albums that Latrell owns are jazz.

What percentage of his music collection is jazz?

$$\frac{5}{8} = 5 \div 8 = 0.625 \quad (\text{Move the decimal two spaces to the right and include a percent sign.})$$

Jazz makes up **62.5%** of Latrell's music collection.

**Alternative method:** You can also solve problems like this by setting up a proportion, like this:

$$\frac{5}{8} \propto \frac{x}{100}$$

$$8 \cdot x = 5 \cdot 100$$

$$8 \cdot x = 500 \quad (\text{Divide both sides by } 8 \text{ so you can get } x \text{ alone.})$$

$$x = 62.5 \rightarrow 62.5\% \text{ of Latrell's music is jazz.}$$