Changing a Fraction to a Percent (2 Strategies)

- Convert your fraction to a decimal. Then, look at your number out to the hundredths place to find your percent (since percents are always out of 100)
  - Example:
    \[
    \frac{2}{5} \times 2 = \frac{4}{10} \times 10 \quad \text{or} \quad \frac{40}{100} = 0.40 = 40\% \\
    \]
    \[
    \frac{3}{7} = 3 \div 7 \approx 0.4286 \approx 43.1\% \\
    \]

- Make a proportion – set your fraction equal to another fraction with a denominator of 100
  - Example:
    \[
    \frac{2}{5} = \frac{?}{100} \quad \Rightarrow \quad \frac{?}{100} = \frac{2 \times 100}{5} = \frac{40}{100} = 40\% \\
    \]
    \[
    \frac{3}{7} = \frac{?}{100} \quad \Rightarrow \quad \frac{?}{100} = \frac{3 \times 100}{7} \approx \frac{42.857}{100} \approx 43.1\% \\
    \]
Investigation 4 Cheat Sheet

**Percent**
- A part to whole comparison using 100 as the whole.
- Means "out of".
- Another way to write a fraction with a denominator of 100.
- Example: 8% is 8 out of 100, \(\frac{8}{100}\), or 8 per 100.

Use a percent bar to solve problems involving percents. Here are some tips:
- The bottom of the bar is used for percents. The beginning being 0% and the end being 100%.
- The top of the bar is used for the numbers. The beginning being 0 and the end being your total.
- Separate the bar into equal sized pieces that are compatible with your problem.
  - Label each piece as a percent on the bottom of the bar. For example, if I separated my bar into 4 pieces I would do 100 \div 4 to get how much each piece would be. Each piece would be 25% so I would count by 25% when I labeled my parts.
  - Label each piece as a number on the top of the bar. For example, if I separated my bar into 4 pieces I would do my total \div 4 to get how much each piece would be. I would count by whatever answer I got when I labeled my parts.

**Example #1**
Emily made 15 out of 20 free-throw shots. What percent of the free-throws she attempted did she make?

For this problem I would separate it into 4 parts because 4 is a factor of 20 and 100. Since 20 is the total, I divide that by 4 parts to see that each part is 5 shots. I would count by 5% to fill in the top part of my bar. For the percentages I would divide 100 (total) by 4 parts to see that each part is worth 25% and then count by 25% on the bottom.

She made 75% of the shots she attempted.

**Example #2**
Marilyn saves 30% of the money she earns each month. She earns $350 each month. How much does she save?

For this problem I would separate it into 10 parts because counting by 10 would allow me to find 30%.

For the top of the bar I would divide the total, $350 by 10 parts to see that I need to count by 35's.

She saves $105 each month.

**Example #3**
At the Natural History Museum, 40% of the visitors are children. There are 36 children at the museum. How many visitors altogether are at the museum?

For this problem I would separate it into 10 parts because counting by 10 would allow me to find 40%.

Then, I would put 36 over 40% because the problem said that there are 36 children and that 40% are children.

Since 40% is 36 children, I see that 4 parts equal 36. If I divide 36 by 4 I find that each part is worth 9 children. So count by nines to find what 100% or the total would be.