MATH095 5.7 Applications: Percents

Review Section 3.6:
https://www.youtube.com/watch?v=0D2dC6aodng&list=PL9dj44OpeMZe_qNgDt_lqqnRjvGNepePg7&index=54

Percents are used to represent a number out of 100. The symbol “%” is used to indicate percent. Check out this excerpt from USA Today from 6/20/06:

By Greg Toppo, USA TODAY
WASHINGTON — Fourteen urban school districts have on-time graduation rates lower than 50%; they include Detroit, Baltimore, New York, Milwaukee, Cleveland, Los Angeles, Miami, Dallas, Denver and Houston.

50% or “50 percent” means that 50 per 100 of students graduate from the listed schools. In other words, out of 100 students, 50 graduate. “Per cent” means “per 100” (it’s Latin).

Here, 50% =

To write a percent as a decimal, get rid of the “%” and divide by 100. In other words, move the decimal point to the left 2 places!

Example 1: Convert the following percents to decimals.

a) 5%

b) 0.15%

c) \(\frac{1}{5}\) % (Convert the fraction to a decimal.)

Decimals to Percents

To write a decimal as a percent, multiply by 100 and use a “%”. In other words, move the decimal point to the right two places!

Example 2: Convert the following decimals to percents.

a) 56

b) 0.45

c) 1
**Percents to Fractions**

To write a percent as a fraction, get rid of the “%” and put the number over 100. In other words, multiply the number by \( \frac{1}{100} \) and simplify, if possible.

*Example 3:* Convert the following percents to fractions or mixed numbers. Simplify, if possible.

a) 5%

b) 16.8%

c) 18 \( \frac{1}{5} \)%

**Fractions to Percents**

To write a fraction as a percent, multiply by 100% and simplify, if possible.

*Example 4:* Convert the following fractions or mixed numbers to percents. Round to the nearest hundredth percent if necessary.

a) \( \frac{3}{10} \)

b) \( \frac{22}{25} \)

c) \( \frac{5}{6} \)

https://www.youtube.com/watch?v=MoZ66Kdr1gg&list=PL9kJ44OpeMZ6qN4Kgg7mF0AJOEN2Fzb8&index=7

Percents are used often in real life applications. We are going to explore some of them today!

**The Basic Formula:** \( R \times B = A \) or Rate times Base equals Amount

*Example 5:* Five Algebra students are absent from a class. If this was 25% of the class, find the total number of Algebra students in the class.
Example 6: When you buy a home, you often have to put down 20% of the total cost for a down payment. If you buy a $120,000 house, how much is the down payment?

Discount-A reduction in the selling price

Sale Price- The reduced price after the discount

Sales Tax- A tax charged on goods sold by retailers, and it is assessed by cities and states for income to operate various services.

Commission-is a fee paid to an agent or sales person for a service.

Example 7. The Adams sold their house. After paying the real estate agent a commission of 6.5% of their selling price and then $1318 in other costs and $129,300 on the mortgage, they received $37,682. What was the selling price of the house.