Technical Math for Allied Health
Class notes
Percent, Discounts, and Simple Interest (module 1)

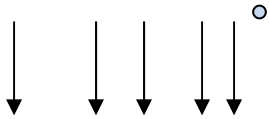
Knowing what "percent" means will help a lot.

"Percent" means "per 100" or "part of 100"

For example, 20% means "20 parts out of every 100 parts". We could write 20% as $\frac{20}{100}$ or .20 (if we do that division).

Do you remember the shortcut for turning percents into decimals?

expl 1: What number is 16% of 70?



These problems can usually be directly translated.

Percent problems compare parts to the whole. Imagine you have a whole 70 dollars or meters or frogs or whatever. And, 16% of that 70 (or 11.2 dollars, meters, frogs, etc.) would be a **part of that whole**. The trick is to figure out what is the part and what is the whole in these problems.

$$percent = part/whole$$
or
$$percent \cdot whole = part$$

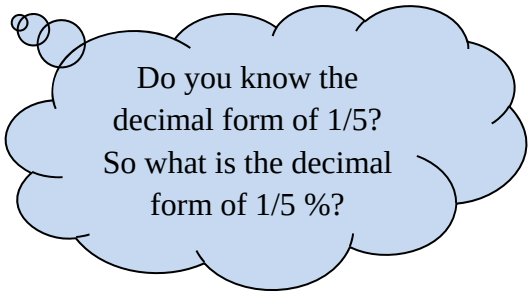
Alternatively,
$$\frac{percent\ number}{100} = \frac{part}{whole}$$

expl 2: The number 45 is 25% of what number?

Identify the part and the whole. Use x to make an equation.

Check yourself! Does your answer make sense?

expl 3: One fifth percent (or 1/5 %) of what number is 8.75?



Check yourself! Does your answer make sense?

expl 4: Andy won 75% of the 64 tennis matches she played. How many matches did she win?

expl 5: Gina spent $14 on a game last week. This was 12.5% of her paycheck. How much was her paycheck?

Discounts: If you are told that a sale item is marked **35% off**, what percentage of the original price will you be paying?

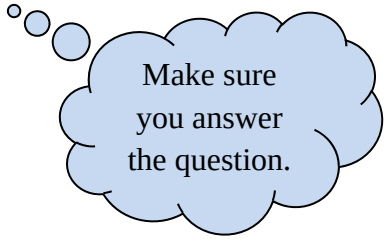
Definitions: The **discount** is the amount of money taken off the original price. The **sales price** is the amount of money you pay for the item, after the discount is subtracted from the original price.

expl 6: A sterile supply technician orders supplies totaling $1,234.56. She receives a 12% discount for payment within 30 days.
a.) If she pays within 30 days, how much of a discount will she receive? Round to the nearest cent.

b.) What is the final cost of the supplies?

expl 7: Solve. Round to the nearest cent.

A pharmacy is advertising a 25%-off sale. Find the sales price of a medication that sells regularly for $12.56.



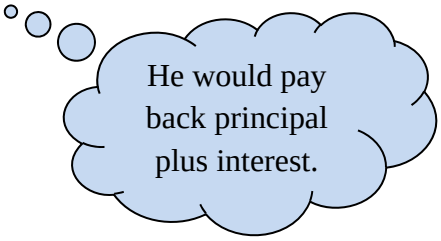
expl 8: Sarah purchased a set of art supplies for $20.90 and a pair of jeans for $18.95. She used a coupon to get 20% off of her entire purchase. The sales tax rate was 7%. How much change did Sarah receive from $50?

Simple Interest: Do you remember the formula for simple interest? Try to write it below from memory. I have defined the variables involved.

Simple interest charged I after borrowing P dollars at an interest rate R (in decimal form) for time T (years)

Definitions: P is the **principal** (amount borrowed or invested), I is the **amount of interest**, R is the **interest rate**, and T is the **time.**

expl 9: A patient must finance $10,000 for an elective surgery. If the annual interest rate is 7.5% and he is charged simple interest for 3 years, what amount will he owe at the end of the 3 years?



Problems about savings accounts are figured similarly.