Lesson 1a: Working with Numbers

+ is your addition.   2+3 = 5

- is your subtraction.   5-3 = 2

* is your multiplication.   7*2 = 14

/ is your division   6/2 = 3.0, 7/2 = 3.5 (it will ALWAYS give floating point answer)

// is your quotient and % is your remainder in division problems.

  a÷b=c with remainder d. // will give you c (quotient) and % will give you d (remainder)

  7÷2=3 with remainder 1. So, 7//2 is 3 (quotient) and 7%2 is 1 (remainder)

** is exponentiation   7**2 = 49 (same as 7*7)

( ) is to change order of operation or to make it more clear

  2*(3+5) is not the same as 2*3+5.

  2*(3+5) = 16 and 2*3+5 = 11

Order of operations are:

1. Parenthesis
2. Exponent
3. Multiplication, Division
4. Addition, Subtraction

Lesson 1b: Using print with Numbers

print(5) will print 5 to the screen

print(5+3) will print 8 to the screen

print(any math operations) will print the result to the screen.

print(3+2, 5*7) will print 5 then a space then 35.

Putting a comma does 2 things

- Allows you to do multiple calculations on one line
- Puts a space between each calculation

We will learn more about the comma in print in the next lesson.

Homework for Lesson 1

Find the result of the following using Python 3

- Find the product of 7 and 51
- Find the sum of 12 and 13
- Take 91 away from 12
- Raise 3 to the 3rd power
- Find the quotient when 12 is divided by 3.4
- Find the remainder when 15.3 is divided by 4.6
- Is 3**3**3, (3**3)**3 or 3**(3**3) - this is a GOOD example when parentheses are great for making it clear in case your reader don't know the order of operations.
- I want the answer -21.0 from 2 + 3 * 5 – 2 ** 2 – 4 / 2 – 3 * 2 + 2 (Where should I add my parenthesis?)
- I have five rows of oranges. Each row of oranges has 10 oranges. How many oranges do I have?
- I have 100 liters of beer. If each glass holds 0.75 liters. How many glasses can I fill? How much beer do I have left over?
- I have 1000 peanuts. Each adult bag contains 65 peanuts. Each child bag contains 4 peanuts.
    - If there are 15 adults each getting 1 adult bag, how many child bags can I make?
    - How many child bags can I make if every adult that wants an adult bag of peanuts gets one until there are not enough peanuts for an adult bag?
    - How many child bags can I make?
- There was a story about a king about a 1000 years ago who was asked to pay only 1 grain of rice and then double it each day until the end of the month. Assuming there were 31 days in a month, why did the king go broke?