

## Week 1 Work

### 2. Is Python Case-Sensitive?

Yes it is

### 4. Estimate the area of a circle if the diameter is 9.7 using Python

73.898

### 6. How can you find some sample examples related to Python?

There are many online resources (Datacamp, video series, tutorials)

### 8. How can you find out more information about a specific function, such as print()?

We can use the built-in help() function (help(print)) to obtain more information about python objects.

### 10. Is pow() a built-in function? How do we use it?

Yes it is. Pow(x, y, z) finds x to the power of y. If z has a value, the function returns the remainder of (x\*\*y)/z.

### 12. When we estimate the square root of 3, which Python function should we use?

To find the square root, we can use math.sqrt after importing the math module.

### 14. Based on the solution of the previous question, what is the corresponding quarterly rate?

Previous Question:

$$PV = 124$$

$$C = 50 \text{ per year}$$

$$PV = C/r$$

$$r = C/PV$$

$$= 50/124$$

$$= 0.4032 \text{ per year}$$

Quarterly Rate = annual rate divided by 4

$$= 0.1008 \text{ or } 10.08\%$$

### 16. For an n-day variance, we have the following formula...If the volatility (daily standard deviation) of a stock is 0.2, what is its 10-day volatility?

$$= 10*0.2$$

$$= 0.02$$

\*I am assuming that days = daily

**18. The substitution function called sub() is from a Python module. Find out how many functions are contained in that module.**

sub() is from the Regular Expressions module used to modify strings. There are 11 functions in total:

1. match
2. fullmatch
3. search
4. sub
5. subn
6. split
7. findall
8. finditer
9. compile
10. purge
11. escape

**20. The Sharpe ratio is a measure of trade-off between benefit (excess return) and cost (total risk) for an investment such as a portfolio. Write a Python program to estimate the Sharpe ratio by applying the following formula.**

See Python