Python Terminology, Variables and Expressions

1. **Terminology**

   Underline all of the **comments** and circle all of the **variables** in the program below.

   ```python
   import math

   angle = math.pi / 4 # 45 degrees
   Hypotenuse = 120.0

   # Remember: sin(theta) = opposite/hypotenuse
   oppositeLength = Hypotenuse * math.sin(angle)

   print("opposite:", oppositeLength)
   ```

   Underline all of the **keywords** and circle all of the **literals** in the program below.

   ```python
   import math

   angle = math.pi / 4 # 45 degrees
   Hypotenuse = 120.0

   # Remember: sin(theta) = opposite/hypotenuse
   oppositeLength = Hypotenuse * math.sin(angle)

   print("opposite:", oppositeLength)
   ```

   Underline all of the **expressions** and circle all of the **operators** in the program below.

   ```python
   import math

   angle = math.pi / 4 # 45 degrees
   Hypotenuse = 120.0

   # Remember: sin(theta) = opposite/hypotenuse
   oppositeLength = Hypotenuse * math.sin(angle)

   print("opposite:", oppositeLength)
   ```

   Underline all of the **statements** and circle all of the **functions** in the program below.

   ```python
   import math

   angle = math.pi / 4 # 45 degrees
   Hypotenuse = 120.0

   # Remember: sin(theta) = opposite/hypotenuse
   oppositeLength = Hypotenuse * math.sin(angle)

   print("opposite:", oppositeLength)
   ```

2. Which of the variable names in the program above *don't* conform to Python naming conventions? Provide alternate names that follow standard Python style.

3. Determine the value and type for each of the following expressions. If the expression will result in an error, enter **ERROR** in both boxes.

	value	type
3 + 4		
3 + 4.0		
(3 + 4.0)7.0		
2 * -2**2		
1 + 12 / 5		

	value	type
1 + 10 / 5		
12 // 5		
12 % 5		
3 -- 4		
3 += 4		