#NAME:

#DATE:

#PERIOD:

**Exercise 2.1 (10 points)**

Repeating the advice from the previous chapter, whenever you learn a new feature, you should try it out in interactive mode and make errors on purpose to see what goes wrong.

Try each of the following in Thonny, and comment about the results.

1. We’ve seen that n = 42 is legal. What about 42 = n?

2. How about x = y = 1?

3. In some programming languages every statement ends with a semi-colon, ;. What happens if you put a semi-colon at the end of a Python statement?

4. What if you put a period at the end of a statement?

5. In math notation you can multiply x and y like this: xy. What happens if you try that in Python?

**Exercise 2.2. (12 points)**

Practice using the Python interpreter as a calculator. Copy and paste the relevant lines from Thonny.

1. The volume of a sphere with radius r is 4/3\*pi\*r^3. What is the volume of a sphere with radius 5?

2. Suppose the cover price of a book is $24.95, but bookstores get a 40% discount. Shipping costs $3 for the first copy and 75 cents for each additional copy. What is the total wholesale cost for 60 copies?

3. If I leave my house at 6:52 am and run 1 mile at an easy pace (8:15 per mile), then 3 miles at tempo (7:12 per mile) and 1 mile at an easy pace again, what time do I get home for breakfast?

**Excercise 2.3 (6 points)**

1. What is the difference between a syntax error and a semantic (logic) error?

2. Something is wrong with each of the statements or expressions below. Write a comment (starting with #) after each explaining what is wrong, and then fix the code.

>>> message = 'Hello, world!

>>> class = 'First Period'

>>> 42answers = 'life, the universe, and everything!'

3. In math class, the carat (^) is used for exponents. It has a different meaning in Python. Try the following. What is going on?

>>> 4 ^ 1

>>> 4 ^ 2

>>> 4 ^ 3

>>> 4 ^ 4

4. How would you raise 3 to the 5th power?

>>>

**Exercise 2.4 (20 points)**

Create a program called LetterToYourself.py. When you run the program, it should print a picture like the one shown below. You should change the name and address to your own. Submit your program as a separate file.

