1. TRUE / FALSE QUESTIONS

_____Programmers must be careful not to make syntax errors when writing pseudocode programs.

_____In a math expression, multiplication and division take place before addition and subtraction.

_____If you print a variable that has not been assigned a value, the number 0 will be displayed.

_____A flowchart is a diagram that graphically depicts the steps that take place in a Computer program.

_____Programs typically perform three steps: input is received, some process is performed on the input, and output is produced.

_____In Python, math expressions are always evaluated from left to right, no matter what the operators are.

_____Comments in Python begin with the # character.

2. COMPLETION QUESTIONS: Fill in the blanks by using the appropriate words given below.

concatenation	modulus/mod	variable
operands	escape	comments

a) _____ are notes of explanation that document lines or sections of a program.

b) The % symbol is the remainder operator, also known as the _____ operator.

c) A(n) _____ character is a special character that is preceded with a backslash (\), appearing inside a string literal.

d) In the expression 12.45 + 3.6, the values to the right and left of the + symbol are the

   _____.

e) When the + operator is used with two strings, it performs string _____.

f) A(n) _____ is a name that represents a value stored in the computer's memory.

3. ALGORITHM WORKBENCH QUESTIONS

a) Write Python code that prompts the user to enter his or her age and assigns the user's input to an integer variable named `age`.

b) Write Python code that prompts the user to enter his or her favorite color and assigns the user's input to a variable named `color`.

c) Write a Python statement that assigns the product of `10` and `15` to the variable `product`.

d) What would the following display?

```
a = 5
b = 2
c = 3
result = a + b * c
print(result)
```

e) What will the following statement display?

```
print('X\tO\tX\nO\tX\tO\nX\tO\tX\n')
```

MULTIPLE CHOICE QUESTIONS

4. Suppose the following statement is in a program: `price = 99.0`. After this statement executes, the price variable will reference a value of which data type?
a) `int`
b) `float`
c) `currency`
d) `str`

5. Which built-in function can be used to convert an **int** value to a **float**?
a) `int_to_float()`
b) `float()`
c) `convert()`
d) `int()`

6. Which of the following statements will cause an error?
a) `x = 17`
b) `17 = x`
c) `x = 99999`
d) `x = '17'`

7. This operator performs integer division.

a) `//`

b) `%`

c) `**`

d) `/`

8. A(n) _____ is a set of well-defined logical steps that must be taken to perform a task.

a) logarithm

b) plan of action

c) logic schedule

d) algorithm

PROGRAMS

9. A customer in a store is purchasing five items. Write a program that asks for the price of each item, then displays the subtotal of the sale, the amount of sales tax, and the total. Assume the sales tax is 7 percent.

10. Assuming there are no accidents or delays, the distance that a car travels down the interstate can be calculated with the following formula:

```
distance = speed x time
```

A car is traveling at 70 miles per hour. Write a program that displays the following:

• The distance the car will travel in 6 hours

• The distance the car will travel in 10 hours

• The distance the car will travel in 15 hours

11. Write a program that asks the user for the number of males and the number of females registered in a class. The program should display the percentage of males and females in the class.

Hint: *Suppose there are 8 males and 12 females in a class. There are 20 students in the class. The percentage of males can be calculated as 8 ÷ 20 = 0.4, or 40%. The percentage of females can be calculated as 12 ÷ 20 = 0.6, or 60%.*