1. Translate the following algorithm in to Java code:

* Step 1: Declare a **double** variable named **miles** with initial value **100.**
* Step 2: Declare a **double** constant named **Mile\_to\_Kilometre** with initial value **1.609**
* Step 3: Declare a **double** variable named **kilometre**, multiply miles and **Mile\_to\_Kilometre**, and assign the result to **kilometre**
* Step 4: Display **kilometre** to the console.

What is kilometre after Step 4?

1. Assume **int a = 1** and **double d=0,**  and that each line is independent. What are the results
   1. a = 46/9 (a = 5.1111)
   2. a = 46 % 9 + 4 \* 4 -2 (a =15)
   3. a = 45 + 43 % 5 \* (23\*3%2) (a=114)
   4. a %= 3 / a+ 3 (a=0)
   5. d = 4 + d \* d + 4 (d = 8)
   6. d +=1.5 \* 3 (++a) (d =9)
   7. d -= 1.5 \* 3 + a++ (d = -5.5)

1. Identify and find the errors:

public class Test {

public static void main(String[ ] args) {

int i; (no initial value)

int k = 100; (capitalization)

int j = i + 1;

System.out.println(“j is “ + j + “ and

k is “ + k): (no semicolon)

}

}

1. Show the output of the following statements (write a program to verify your results):

System.out.println(“1” + 1); (11)

System.out.println(‘1’+ 1); (50)

System.out.println(“1” + 1 + 1); (111)

System.out.println(“1” + (1 + 1)); (12)

System.out.println(‘1’ + 1 + 1); 51

(Showing the output without creating or running the code is typically refered to “stepping through” your code.

1. Why do you have to import JOptionPane and not the Math class?

One is an additional package, math is included with java.lang

1. How do you convert a string to an integer? How do you convert a string to a double?

Integer.parseInt()

Double.parseDouble()