Name: **Class:**   **ID:**

1. Java code compiles to byte code that has to run in a program called a "virtual machine" instead of using the native instruction set of a computer. Explain how this makes Java platform independent.
2. List and briefly describe the steps one takes in developing a Java program, all the way from source code creation to running the program.
3. List 5 Java reserved words.
4. List all primitive data types in Java.
5. Mark each of the following as a valid Java variable name or invalid. If not valid, explain why.
   a) bottle99
   b) r+d
   c) fun class
   d) FancyTree
6. Write Java code that will interchange the values of two doubles, fA and fB. For example, if fA=7.0 and fB=8.1 at the beginning, fA will equal 8.1 and fB will equal 7.0 at the end. (Hint: you need a temporary variable.)
7. What will the following code print on the screen?

```
System.out.print("I like bits\n");
System.out.print("and I like bytes");
System.out.print("\nand I will print\nin multiple ");
System.out.println("types.");
```

8. In each part below, what value is stored into the variable on the left side of the equals sign? If there is an error, answer "Error", and state what the error is. (Hints: use the precedence rules to guide the order of operations. Also, keep in mind that a double value cannot be assigned to a float value without a cast.)

```
int iA;
double dB;
(a) iA = 21 / 5 * 4;
(b) iA = 37 % 9;
(c) iA = 9 / 8.0;
(d) iA = 3 + 4 - 2 * 7 / 6 % 4;
(e) iA = (int) 17 / 3.0;
(f) dB = (double) ( 4 / 5 );
```