Unit 2 Practice Test

1. Consider the following three Java code fragments:

   I. 17.76
   II. "It's July!"
   III. hello

Which of them are examples of Java literals? (If a word could be a variable, you may assume that it has been properly declared and initialized.)

A. only I
B. only II
C. only III
D. I and II, but not III
E. I and III, but not II
F. II and III, but not I

2. Consider the following Java code fragment:

   int m = 9;
   int n = 4;
   m += n;
   n = m - n;
   m = m - n;
   System.out.println(m + " " + n);

When it is executed, what output will be produced?

A. 4 9
B. 5 5
C. 13 5
D. 9 4
E. 13 9

3. Which of the following for-loop headers will cause the body of the loop to be repeated exactly 7 times?

A. for (int i = 0; i <= 7; i++)
B. for (int i = 1; i < 7; i++)
C. for (int i = 0; i < 7; i++)
D. for (int i = 1; i <= 8; i++)
E. none of these
4. Consider the following Java code fragment:

```java
int a = 7;
int b = a / 2;
double c = a / 2;
a = a % 4;
System.out.println(a + " " + b + " " + c);
```

When it is executed, what output will be produced?

A. 3 3 3.5  
B. 3 3 3.0  
C. 3 1 1.5  
D. 3 1 1.0  
E. 1 3 3.5  
F. 1 0 0.0

5. What is the output of the following Java program?

```java
public class Problem5 {
    public static void method1() {
        System.out.print("X ");
    }
    public static void method2() {
        System.out.print("Y ");
    }
    public static void main(String[] args) {
        for (int i = 0; i < 4; i++) {
            if (i <= 2) {
                method1();
            } else {
                method2();
            }
        }
    }
}
```

A. Y Y X X X  
B. X Y X X Y Y  
C. X Y X X X Y  
D. X X Y Y  
E. X X X Y  
F. X X X Y Y
6. What is the output of the following?

```java
int i, j;
for (i = 0; i <= 4; i += 2) {
    for (j = 1; j < i; j++) {
        System.out.println(i + " " + j);
    }
    System.out.println(i + j);
}
```

We encourage you to use a table to keep track of the values of the variables, although doing so is *not* required.

*Put the output below.*
7. Write a code fragment (no class or method is needed) that uses nested for loops to produce the following pattern. Each print/println statement should print at most one character. You may find it helpful to use a table to determine the necessary formulas, as we did in class. You do *not* need to use a class constant.

```
  :::::
  \\
  \\
  \\
```