

For the following short-answer questions, check your work carefully, since no partial credit can be given on the questions asking for output. Note that "output" means what will be printed on the display screen.

1. (5 points) Given the following code fragment, state clearly and precisely what the output will be:

```
int j = 9;
int k = 4;
k = j;
System.out.println(j + " and " + k);
```

2. (5 points) Given the following code fragment, state clearly and precisely what the output will be:

```
int b = 13;
System.out.println("First " + ++b);
System.out.println("Then " + b);
```

3. (5 points) What is the output of the following statements?

```
System.out.print("Hello ");
System.out.println("World");
```

4. (5 points) Given the following `while` loop, write it as a `for` loop.

```
int total = 0;
int counter = 5;
while (counter >= 1){
    total += counter;
    counter--;
}
```

5. (5 points) Write the following `if` statement using a logical operator.

```
if (age >= 21) {
    if (money >= 5) {
        ++beer;
    }
}
```

6. (5 points) What's the difference between a `while` loop and a `do...while` loop?

7. (5 points) Using 5 different primitive datatypes, declare and initialize a variable for each.

a.

b.

c.

d.

e.

8. (5 points) What's the difference between these 2 logical operators?

&&

&

9. (9 points) Describe the following logical operators. State the rule or explain what happens when you use it.

a. **&&**

b. **||**

c. **!**

10. (5 points) Write the following Java statement using a compound operator:

catTotal = catTotal + newCats;

11. (6 points) Counter-controlled iteration requires what 3 things?

a.

b.

c.

12. (5 points) What is the result after the following Java statements execute?

int a = 1;

int b = 2;

int c = 3;

int d = 4;

result = d / b * c + d / b + a

13. (5 points) What's the difference between prefix and postfix increment and decrement operators? (For example: ++num vs. num++)

14. (10 points) Below, within the given program "shell," write the code fragment that asks the user for a number grade. Get the number grade as input. Then, create an if statement to print out the equivalent letter grade.

```
import java.util.Scanner;

public class LetterGrade {
    public static void main(String[] args) {

        int numberGrade = 0;

        Scanner input = new Scanner(System.in);

        // code your if statement below:
```

```
    }
}
```

15. (5 points) What would you name the file of the above program?

16. (10 points) Below, within the given program "shell," write the code fragment that asks the user to pick a number between 1 and 4. Get the number grade as input. Then, create a switch statement that prints out a color based on what number was entered. (hint: don't forget to include a default).

```
import java.util.Scanner;

public class AssignColor {
    public static void main(String[] args) {

        int num = 0;

        Scanner input = new Scanner(System.in);

        // code your switch statement below:
```

```
    }
}
```

17. (5 points) What would you name the file of the above program?

Bonus

1. (5 points) Who is headlining the 25th Annual Presidential Scholarship Gala?