Worksheet: Final Review 1

1. Recall our "`Hello World`" program, given in the box below (with line numbers to the left):

```
1 public class HelloWorld {
2     public static void main(String[] args) {
3         System.out.println("Hello World!");
4     }
5 }
```

For each row below, write the output of the program if line 3 is replaced with the line or lines in the box. If there is an error that will cause the program to not work, state the error.

a)	`System.out.print("Hello" + "World!");`	
b)	`System.out.print("Hello");` `System.out.print("World!");`	
c)	`System.out.print("3 + 4.0");`	
d)	`System.out.print(2.0 + 3);`	
e)	`System.out.print("1" + 2 + 3);`	
f)	`System.out.print(1 + 2 + "3");`	
g)	`System.out.print(1 / 2 + "3.0");`	
h)	`System.out.print(1 / "2" + 3.0);`	
i)	`System.out.print("Result: " + 3 * 5.0);`	
j)	`System.out.print(1 / 2.0 + 3);`	
k)	`int num = 5;` `System.out.print("num");`	
l)	`double myDouble = 5.0;` `System.out.print(myDouble);`	
m)	`System.out.print("Say\n\"Hello.\"");`	
n)	`System.out.print("Print a \"\\\".");`	

o)	`for(int i = 0; i <= 5; i++) {`
	`  System.out.print(i+1+", ");`
	`}`	

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2. Write the Java statement that will perform each of the following tasks.

a) Declare a variable `year` that is able to store an integer value.

b) Declare a variable `seconds` that is able to store a real value.

c) Declares a variable named `half` that is initialized to the value `0.5`.

d) Declare a variable labeled "`a`" that is able to store five real numbers.

e) Declares and initializes a variable labeled "`b`" that contains the integer values `2`, `4`, and `6`.

3. Review ***DeMorgan's Law*** and the ***Distributive Law***, then answer the following questions.

a) Add only logical negation (`!`) in order to make it always equivalent to the expression `A && B`.

```
(  A  ||  B  )
```

b) Add only logical negation (`!`) in order to make it always equivalent to the expression `A || B`.

```
(  A  &&  B  )
```

c) Complete the expression such that it is equivalent to `A && ( B || C )`

```
(    &&    ) || (    &&    )
```

4. Consider the following method that returns `true` if `value` is between the limits `min` and `max`. There are a number of syntax errors in the code.

```
1 public static between(int value  int min  int max);
2    return min < value < max;
```

a) Rewrite the method, correcting all the syntax errors.

b) Write a Java statement that calls the method `between` with valid parameters of your choice, and prints the results to the console.