De Morgan's Law and other fun things   Name: _____

1. Simplify using De Morgan's Law: ! (A && B)

2. Simplify using De Morgan's Law: ! (A || !B)

3. Simplify using De Morgan's Law: ! (B || (A && !B))

4. Given x, y and z int variables, what does ! (y<=x && z == 17) simplify to?

5. Assuming isHot and isWindy are properly initialized boolean variables, which of the following is equivalent to !(isWindy || isHot)

  isWindy && isHot   !isWindy || !isHot   !isWindy && !isHot   !isWindy && isHot

Use the following for the next few questions:

```
String AP = "I promise to not let substrings beat me up! Go tigers";
int loc = AP.indexOf("ng");
```

What is printed with each of the following? Write your answer in the right-hand column→	Answer
6. `System.out.println(AP.indexOf("om"));`	
7. `System.out.println(AP.substring(loc+4,loc+5));`	
8. `System.out.println(AP.substring(4,5));`	
9. `System.out.println(AP.substring(AP.length()-1));`	
10. `System.out.println(AP.substring(loc+2,loc+3));`	

11. Write a line to print the first half of a properly initialized String called "passcode":

12. Describe how short circuit evaluation would work with the following block of code. Assume int variables c and d are properly initialized with valid data:

```
if(c<d || d>2019)
    System.out.println("go tigers");
```