Final Exam Review #2 worksheet

Name: Key 12/13/21

1. What is output by the following:

```
String a = "sticks";
System.out.println(a.indexOf("h"));
```

-1

2. What is output by the following:

```
String a = "sticks";
System.out.println(a.substring(3));
```

cks

3. The Assignment class performs as indicated in the following table.

Command	Ouput
`Assignment a = new Assignment("Math");`	<no output>
`System.out.println(a);`	1. Math
`Assignment b = new Assignment("APCS");`	<no output>
`System.out.println(b);`	2. APCS
`b.done();`	<no output>
`System.out.println(b);`	2. APCS (completed)

Write the complete Assignment class here:

```
class Assignment
{
  private int number;
  private static int nextNumber = 1;
  private String name;
  private boolean completed;
  public Assignment(String n)
  {
    name = n;  completed = false;
    number = nextNumber;
    nextNumber++;
  }
  public void done()
  {
    completed = true;
  }
  public String toString(){
  if (completed) return number + ". " + name + " (completed)";
  return number + ". " + name; }
```

4. What it output when this code runs?

```
int h=10;
h--; 9
h/=3; 3
h+=h; 6
System.out.println(h); 6
```

5. Write a line which prints **num** to the **p** power, assuming both **num** and **p** are integers and are properly initialized:

System.out.println(Math.pow(num, p));

6. Assume String array **words** is properly initialized with valid Strings. Write code to check the contents of String array **words** and count and print the number of entries where the first letter is the same as the last letter:

```
int count = 0
for (String w: words) {
  if (w.substring(0,1).equals(w.substring(w.length()-1)))
      count ++;
}
System.out.println(count);
```

7. Referring as necessary to the Frog class to the right, write code below that does the following:

Create a 1000 element Frog array.

Instantiate each Frog.

Hop each Frog its index value. So the Frog at location 0 gets hopped zero (sadly, it does not really get to hop) and the Frog at index 999 hops 999 spaces.)

```
class Frog
{
   private int location;
   public Frog()
    {location=0; }
   public void hop(int n)
    {location+=n; }
   public int getLocation()
    {return location;}
   public String toString()
    {
      String temp = "";
      for(int i = 0;i<location;i++)
       {temp+=".";}
      return temp+"@";
   }
}
```

```
Frog[] pond = new Frog[1000];
for(int i = 0; i<pond.length; i++)
  {
    pond[i] = new Frog();
    pond[i].hop(i);
  }
```

8. Simplify this boolean expression:

```
!( x<y || ( x<=7 && y!=6 ) )
```

x>=y && (x>7 || y==6)

9. Write code to declare a String array that contains your first and last name as separate Strings using an array initializer.

```
String[] myName = {"Mr.", "Hays"};
```

10. Problem 10 refers to the code to the right.

```
Frog mrHops = new Frog();
```

mrHops is an instance of the class Frog.

circle one: (True) or False