Unit 1 – Worksheet 03 Name: _____

Math Methods and Random Digits

1. Evaluate the following problems:

   A. Math.pow(3,2)

   B. Math.floor(12.89)

   C. Math.sqrt(25)

   D. Math.abs(-99)

   E. Math.min(-22, -33)

   F. Math.ceil(2.3)

   G. Math.round(7.7)

   H. Math.random( ) * 10

   I. Math.round(Math.PI*2+1.4)

   J. Math.abs(Math.pow(5,2)-40)

   K. Math.pow(17%10, Math.sqrt(4))

   L. Math.sqrt((int)(10.0/4*3) – 3)

   M. Math.floor(Math.min(3.87, Math.abs(-3.79)))

   N. Math.min(Math.sqrt(1.21), 21%2)

   O. (int)(Math.random( ) * 20)+1

	In int	In dec	O int	O dec
Math.abs(x)	x	x	x	x
Math.pow(x,y)	x	x		x
Math.sqrt(x)	x	x		x
Math.floor(x)	x	x		x
Math.ceil(x)	x	x		x
Math.min(x,y)	x	x	x	x
Math.max(x,y)	x	x	x	x
Math.random( )				x
Math.round(x)	x	x	x	

2. Create a new JAVA class called **diceRoller**. This diceRoller class will simulate a video game in which a 6-sided die is rolled and an 8-sided die is rolled. The two dice are added together to determine how many spaces you move in the game. Use the following code to create the main program and then complete the program by writing the missing code for each part of the program. Be sure to test your class multiple times to make sure it is working.

```
public class diceRoller {
   public static void main(String[] args) {
      int die1, die2;
      die1 =                                   // add code to store a 6-sided die roll in die1
      die2 =                                   // add code to store an 8-sided die roll in die2

     /* Add three output statements so the program displays the following (and the results for each):
      *          6-sided die =
      *          8-sided die =
      *          Total of dice is
      */

   }
}
```

3. Create a new JAVA class called **drawCard**. The drawCard class is intended to simulate drawing a random card from a standard 52-card deck of cards. A random number between 1 and 52 will be selected by the computer and will determine the card drawn. Use the following chart to determine which card your program selects:

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

      int randomCardNumber;

      randomCardNumber =              //add code to make 1-52

      System.out.print("Your card was #"+randomCardNumber);

   }
}
```

1 – Ace of Hearts
2 – 2 of Hearts
3 – 3 of Hearts
4 – 4 of Hearts
5 – 5 of Hearts
6 – 6 of Hearts
7 – 7 of Hearts
8 – 8 of Hearts
9 – 9 of Hearts
10 – 10 of Hearts
11 – Jack of Hearts
12 – Queen of Hearts
13 – King of Hearts
Cards 14-26 = same but Spades
Cards 26-42 = same but Diamonds
Cards 43-56 = same but Clubs

Once your program is finished, run it four times:

Trial #1: Card #____ The card is the _____

Trial #2: Card #____ The card is the _____

Trial #3: Card #____ The card is the _____

Trial #4: Card #____ The card is the _____