Reasons for creating a method:

Calling a method vs Creating method:

Calling a method	Creating a method

`diamond(200,300,80);`	`void diamond(int x, int y, int size)`
	`{`
	`  rotate(PI/2);`
	`  rectMode(CENTER);`
	`  rect(x,y,size,size);`
	`  rotate(-PI/2);`
	`}`

Four parts of every method are:

Reason for return types:

Reason for parameters:

The four questions we answer when we write a method are:

1)

2)

3)

4)

Given the following method headings:

```
void banana()
void apple(int gala, float fuji)
boolean pear(double bosc, char bartlett)
char grape(String pinot, int baga)
int orange(float valencia)
```

1) How many action methods are there? _____
2) How many information methods are there? _____
3) How many parameters are there total? _____
4) Give an example of how you would call each method in a program:

_____
_____
_____
_____
_____

5) If you could look at the body of these methods which ones would have the word `'return'` in them?

_____

Given the following piece of code:

```
int num1 = 90;  int num2 = 80;  float f = 70.0;
num1++;  num2--;
float avg = num1 + num2 + f/3;
int bigger = max(70,55);
println(realAvg(num1,num2,f));
displayGrades(97,'A');
```

6) What is the value of `avg` when the code is complete? _____
7) How many parameters are there total? _____
8) Write the method heading for the `max()` method: _____
9) Write the method heading for the `realAvg()` method: _____
10) Write the method heading for the `displayGrades()` method: _____

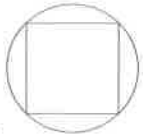
On the back write a method that :

11) Will draw a green four-leaf clover by placing four circles around a given location. One circle will be 50 pixels above the location, one 50 pixels below, one 50 pixels to the left, and one 50 pixels to the right

12) Will round a decimal number to the correct whole number (hint: look at your math homework)

13) Will return the character average of two characters sent to it (E.g. the character average of 'A' and 'E' is 'C' because 'C' is halfway between 'A' and 'E'

14) Will draw a circle square at a given location with a given size.



Name : _____ **Date :** _____

Math and Methods

DIRECTIONS : Fill in each blank with the correct answer/output. Assume each statement happens in order and that one statement may affect the next statement.

```
double z = 45.5;        long x = 82;
int a = 13, b = 7;          char var = 'K';

System.out.print( 6 / 3 * 3 );                  // LINE 1
System.out.print( 6 / (3 * 3) );                // LINE 2
System.out.print( a % 2 );                      // LINE 3
System.out.print( x % 2 );                      // LINE 4
System.out.print( a % 2 == 0 );                 // LINE 5
System.out.print( a / b * b);                   // LINE 6
System.out.print( b % a );                      // LINE 7
System.out.print( 'A'+ 5 );                     // LINE 8
System.out.print( (double)( (a+8) / b) );       // LINE 9
System.out.print( (double)a / (b - 2) );        // LINE 10
System.out.print( var + 5);                     // LINE 11
System.out.print((char)(var + 5));              // LINE 12

a= (int)z+ a + b / 3 * 4;
System.out.println((char)a );                   // LINE 13
```

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____

Consider the following method headings:

```
void shape()
void shape(float big)
int random()
int random2(int start, int end)
boolean isEven(int num)
```

How many overloaded methods are there? _____
Pick a method from above that is not overloaded and write a method heading that would cause the method to become overloaded: _____

Write a method called `rAvg` that will take in three whole numbers and return the rounded average of those three numbers. (*Be careful about data types in your program*)

Name : _____ **Date :** _____

Math/Calc Worksheet 1

DIRECTIONS : Fill in each blank with the correct answer/output. Assume each statement happens in order and that one statement may affect the next statement.

```
double z = 123.456;       long x = 7;
int a = 5, b = 2;         char var = 'H';

System.out.print( 3 + 3 * 3 );                    // LINE 1
System.out.print( a * (a % b) );                  // LINE 2
System.out.print( b / a );                        // LINE 3
System.out.print( 'A'+ 5 * b);                    // LINE 4
System.out.print( (int)(5.6 + 0.5));              // LINE 5
System.out.print( a % b );                        // LINE 6
System.out.print( b % a );                        // LINE 7
System.out.print( (int)(5.4 + 0.5) );             // LINE 8
System.out.print( (double)( a / b) );             // LINE 9
System.out.print( (double)a / b );                // LINE 10
System.out.print( var + 5);                       // LINE 11
System.out.print((char)(var + 5));                // LINE 12

a=var+2;
System.out.println( a );                          // LINE 13

z=var+5;
System.out.println( z);                           // LINE 14

var='A'+4;
System.out.println( var);                         // LINE 15

z = 14 / 4;
System.out.println( z );                          // LINE 16

var=(char)(z-25);
System.out.println( var );                        // LINE 17

a++;
System.out.print( a );                            // LINE 18

b--;
System.out.print( b );                            // LINE 19

z = 14.0 / 4;
System.out.print( z  );                           // LINE 20

System.out.print(pow((int)(z),2));                // LINE 21
```

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____