Learning Goals

1. Practice creating and using your own functions/methods.
2. Be able to follow the flow of code execution between functions/methods.

Instructions

1. Type in the code you see below, including comments. Save the file. Ensure it compiles.
2. Run the code. What does it do right? What does it do wrong?
3. Examine how the print statements make calls to the add() method, and to subtract() and multiply(). Try to follow the flow of the code and how the variable values move around.
4. Locate the methods with a // FIX instruction in them. Fix those two lines of code.
5. Compile and run the code. Does it work right now? If not, fix it.
6. Finally, AFTER add(), subtract() and multiply() are working correctly, you should write a new method divide() that works similarly.
7. Write some println statements to test out the divide method and make sure it works.

```
import static java.lang.System.out;

public class Calculator
{
    public static int add(int a, int b)
    {
        // This works!
        return a + b;
    }
    public static int subtract(int a, int b)
    {
        // FIX the line below!
        return 0;
    }
    public static int multiply(int a, int b)
    {
        // FIX the line below!
        return 0;
    }

    public static void main(String[] args)
    {
        // First we call the add function.
        // It takes two input parameters which are 5 and 7 here.
        // The return value of add(), which is 12,
        // gets saved in the variable x.
        int x = add(5, 7);

        // Then we print out the value of x in our print statement.
```

```
        System.out.println("5 plus 7 equals " + x);

        // Now we do the same kind of call, but in a single line,
        // without needing 'x' as a temporary variable in between.
        System.out.println("3 plus 5 equals " + add(3, 5));
        System.out.println("1 plus 2 equals " + add(1, 2));

        // The subtraction results are wrong
        // because the subtract() method is incomplete. Fix it!
        System.out.println("9 minus 4 equals " + subtract(9, 4));
        System.out.println("9 minus 3 equals " + subtract(9, 3));

        // The multiplication results are wrong
        // because the multiply() method is incomplete. Fix it!
        System.out.println("3 times 3 equals " + multiply(3, 3));
        System.out.println("2 times 4 equals " + multiply(2, 4));

        // Now it's your turn! Create a divide() method and write some
        // print statements to test that it works right.


    }
}
```