Section 8: Methods, Parameters, and Returns

```
public class Calculator {
    public static void main(String[] args) {
        int result = add(5, 3);
        System.out.println("Sum: " + result);
        System.out.println("Product: " + multiply(4, 7));
        int x = square(6);
        System.out.println("Square: " + x);
        System.out.println(isEven(result));
    }

    public static int add(int a, int b) {
        return a + b;
    }

    public static int multiply(int a, int b) {
        int product = a * b;
        return product;
    }

    public static int square(int num) {
        return multiply(num, num);
    }

    public static boolean isEven(int num) {
        return num % 2 == 0;
    }
}
```

Question 1

What is the output of the above program? Write it as it would appear in the console.

Question 2

Consider the following method code:

```
public class Temperature {
    public static void main(String[] args) {
        int temp = 32;
        // Point A
        int converted = toFahrenheit(temp);
        // Point D
        System.out.println(converted);
    }

    public static int toFahrenheit(int celsius) {
        // Point B
        int fahrenheit = (celsius * 9 / 5) + 32;
        // Point C
        return fahrenheit;
    }
}
```

What is the value of `temp` at Point A?

What is the value of `celsius` at Point B?

What is the value of `fahrenheit` at Point C?

What is the value of `converted` at Point D?

Question 3

Write a method called `calculateDiscount()` that accepts two parameters: `double price` and `int discountPercent`, and returns the final price after applying the discount. For example, a call to `calculateDiscount(100.0, 20)` would return `80.0` (20% off of $100).

Step 1: What are the necessary components of our method header? (Hint: think about return type, method name, and parameters)

Step 2: With what we brainstormed in step 1, write a method header for this problem.

Step 3: Now that we've written a method header, we can write the body to execute this problem! Create a solution to this program (starting from class declaration, main method and method creation, to execution). Don't forget to call the method in the main method, and print out the returned value!