

**Quiz: Using the Math Class**©2024 Chris Nielsen – [www.nielsenedu.com](http://www.nielsenedu.com)

1. The start of class `PlayWithMath` is given. Please complete the class by writing the following methods: `printCircumference`, `printCircleArea`, `calculateCircumference`, and `calculateCircleArea`. The print methods must call the calculate methods and the calculate methods should not print any output to the screen. The methods must work correctly for different values of radius. Your code must run without error with the main method as given. The expected output is as follows:

```
The value of pi is: 3.141592653589793
The circumference of a circle of radius 5.0 is equal to 31.41592653589793.
The area of a circle of radius 5.0 is equal to 78.53981633974483.
```

Continue on the back of the paper if the space below is insufficient.

```
public class PlayWithMath {

    public static void main(String args[]) {
        System.out.println("The value of pi is: " + Math.PI);
        printCircumference(5.0);
        printCircleArea(5.0);
    }

    // method calculateCircumference:
    public static double calculateCircumference(double radius) {
        return 2 * Math.PI * radius;
    }

    // method calculateCircleArea:
    public static double calculateCircleArea(double radius) {
        return Math.PI * radius * radius;
    }

    // method printCircumference:
    public static void printCircumference(double radius) {
        double circumference = calculateCircumference(radius);
        System.out.println("The circumference of a circle of radius " +
                           radius + " is equal to " + circumference + ".");
    }

    // method printCircleArea:
    public static void printCircleArea(double radius) {
        double area = calculateCircleArea(radius);
        System.out.println("The area of a circle of radius " +
                           radius + " is equal to " + area + ".");
    }

}
```