

## Practice Exercise #07: Area of Circle Enclosing a Square

[http://www.comp.nus.edu.sg/~cs1020/4\\_misc/practice.html](http://www.comp.nus.edu.sg/~cs1020/4_misc/practice.html)

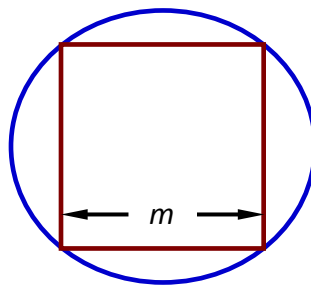
Reference: Week 2 OOP Part 1

### Objectives:

1. Using **Math** class

### Task statement:

In CS1010 Week 1<sup>†</sup>, the following problem was discussed. A square of side  $m$  is enclosed in a circle, with the corners of the square touching the boundary of the circle, as shown below. What is the area of the circle?



Write a program **CircleArea.java** to read in the length (a positive value of type **double**) of one side of a square and compute the area (type **double**) of the enclosing circle.

You should use the **Math** class attribute (constant) **PI** for the value of  $\pi$ . You should also write a method **circleArea(double r)** that takes  $r$ , the radius of the circle, as the parameter and returns the computed area of the circle.

The area should be printed in 2 decimal places, as shown in the sample runs below.

### Sample runs:

```
Enter side of square: 12.3
Area of circle = 237.65
```

```
Enter side of square: 200
Area of circle = 62831.85
```

---

<sup>†</sup> Lecture slides for CS1010 are available on [http://www.comp.nus.edu.sg/~cs1020/4\\_misc/cs1010\\_lect.html](http://www.comp.nus.edu.sg/~cs1020/4_misc/cs1010_lect.html)