

## APCS RegularPolygon — Class Notes

```
import apcslib.*;

public class RegularPolygonDemo
{
    public static void main( String[] args )
    {
        int numOfSides = 6;
        double lengthOfSide = 3.5;
        RegularPolygon figure = new RegularPolygon( numOfSides, lengthOfSide );
        double area;
        area = figure.getArea();
        System.out.println("The area of the figure is " + Format.left(area, 8, 2) );
    }
}
```

```
public class RegularPolygon
{
    private int numOfSides;
    private double sideLength;

    public RegularPolygon( int n, double l )
    {
        numOfSides = n;
        sideLength = l;
    }

    public double getArea()
    {
        return this.calculateArea();
    }

    private double calculateArea()
    {
        double apothem;
        double interiorAngle;
        interiorAngle = (double)(numOfSides - 2) / numOfSides * Math.PI ;
        apothem = Math.tan( interiorAngle/2 ) * sideLength / 2 ;
        return sideLength * apothem / 2 ;
    }
}
```