import java.util.Scanner;

// Abstract class Shape

abstract class Shape {

// Abstract methods

abstract double calculateArea();

abstract double calculatePerimeter();

}

// Subclass Circle

class Circle extends Shape {

private double radius;

// Constructor

public Circle(double radius) {

this.radius = radius;

}

// Implementation of abstract methods

@Override

double calculateArea() {

return Math.PI \* radius \* radius;

}

@Override

double calculatePerimeter() {

return 2 \* Math.PI \* radius;

}

}

// Subclass Triangle

class Triangle extends Shape {

private double side1, side2, side3;

// Constructor

public Triangle(double side1, double side2, double side3) {

this.side1 = side1;

this.side2 = side2;

this.side3 = side3;

}

// Implementation of abstract methods

@Override

double calculateArea() {

// Using Heron&#39;s formula

double s = (side1 + side2 + side3) / 2;

return Math.sqrt(s \* (s - side1) \* (s - side2) \* (s - side3));

}

@Override

double calculatePerimeter() {

return side1 + side2 + side3;

}

}

// Main class to test the program

public class p6 {

public static void main(String[] args) {

// Circle with radius 5

Scanner sc=new Scanner(System.in);

System.out.println(&quot;Enter the radius of circle&quot;);

int r=sc.nextInt();

Shape circle = new Circle(r);

System.out.println(&quot;Circle Area: &quot; + circle.calculateArea());

System.out.println(&quot;Circle Perimeter: &quot; + circle.calculatePerimeter());

System.out.println(&quot;Enter the sides of the triangle&quot;);

int s1=sc.nextInt();

int s2=sc.nextInt();

int s3=sc.nextInt();

Shape triangle = new Triangle(s1, s2, s3);

System.out.println(&quot;Triangle Area: &quot; + triangle.calculateArea());

System.out.println(&quot;Triangle Perimeter: &quot; + triangle.calculatePerimeter());

}

}