```java
package com.company.InheritanceProblem;

public abstract class Shape {
    public abstract void GetInfosAboutShape();
}
```

```java
package com.company.InheritanceProblem;

public abstract class ThreeDimensionShape extends TwoDimensionShape{
    private double volume;

    public abstract double calculateVolume();
}
```

```java
1 package com.company.InheritanceProblem;
2
3 public abstract class TwoDimensionShape extends Shape {
4
5     public abstract double calculateArea();
6     public abstract double calculatePerimeter();
7 }
8
```

```java
package com.company.InheritanceProblem;

public class Cube extends ThreeDimensionShape{

    private double side1;

    public Cube(double side1){
        this.side1 = side1;
    }

    @Override
    public void GetInfosAboutShape() {
        System.out.println("Shape : "+this.getClass().getName().replace("com.company.InheritanceProblem.",""));
        System.out.println("Volume : "+calculateVolume());
        System.out.println("Area : "+calculateArea());
        System.out.println("Perimeter : "+calculatePerimeter());
    }

    @Override
    public double calculateArea() {
        return 6 * Math.pow(side1,2);
    }

    @Override
    public double calculatePerimeter() {
        return 12 * Math.pow(side1,4);
    }

    @Override
    public double calculateVolume() {
        return Math.pow(side1,3);
    }
}
```

```java
package com.company.InheritanceProblem;

public class Prism extends ThreeDimensionShape{
    private double side1;
    private double side2;
    private double side3;

    public Prism(double side1,double side2,double side3){
        this.side1 = side1;
        this.side2 = side2;
        this.side3 = side3;
    }
    @Override
    public void GetInfosAboutShape() {
        System.out.println("Shape : "+this.getClass().getName().replace("com.company.InheritanceProblem.",""));
        System.out.println("Volume : "+calculateVolume());
        System.out.println("Area : "+calculateArea());
        System.out.println("Perimeter : "+calculatePerimeter());
    }

    @Override
    public double calculateVolume() {
        return side1*side2*side3;
    }

    @Override
    public double calculateArea() {
        return 2 * ((side1*side2) + (side1*side3) + (side2*side3));
    }

    @Override
    public double calculatePerimeter() {
        return 8 * (side1+side2+side3);
    }
}
```

```java
package com.company.InheritanceProblem;

public class Rectangle extends TwoDimensionShape{
    private double side1;
    private double side2;

    public Rectangle(double side1,double side2){
        this.side1 = side1;
        this.side2 = side2;
    }

    @Override
    public double calculateArea() {
        return side1 *side2;
    }

    @Override
    public double calculatePerimeter() {
        return 2 * (side1+side2);
    }

    public double getSide2() {
        return side2;
    }

    public void setSide2(double side2) {
        this.side2 = side2;
    }

    public double getSide1() {
        return side1;
    }

    public void setSide1(double side1) {
        this.side1 = side1;
    }
```

```java
37
38      @Override
39      public void GetInfosAboutShape() {
40          System.out.println("Shape : "+this.getClass().getName().replace("com.company.InheritanceProblem.",""));
41          System.out.println("Area : "+calculateArea());
42          System.out.println("Perimeter : "+calculatePerimeter());
43      }
44 }
45
```

```java
package com.company.InheritanceProblem;

public class Square extends Rectangle{

    public Square(double side1) {
        super(side1, side1);
    }
}
```

```java
package com.company.InheritanceProblem;

public class Circle extends TwoDimensionShape {
    private double radius;

    public Circle(double radius) {
        this.radius = radius;
    }

    @Override
    public double calculateArea() {
        return Math.PI * Math.pow(radius,2);
    }

    @Override
    public double calculatePerimeter() {
        return 2 * Math.PI * radius;
    }

    @Override
    public void GetInfosAboutShape() {
        System.out.println("Shape : "+this.getClass().getName().replace("com.company.InheritanceProblem.",""));
        System.out.println("Area : "+calculateArea());
        System.out.println("Perimeter : "+calculatePerimeter());
    }
}
```

```java
package com.company.InheritanceProblem;

public class Cylinder extends ThreeDimensionShape{

    private double radius;
    private double height;

    public Cylinder(double radius,double height){
        this.radius = radius;
        this.height = height;
    }

    @Override
    public void GetInfosAboutShape() {
        System.out.println("Shape : "+this.getClass().getName().replace("com.company.InheritanceProblem.",""));
        System.out.println("Volume : "+calculateVolume());
        System.out.println("Area : "+calculateArea());
        System.out.println("Perimeter : "+calculatePerimeter());
    }

    @Override
    public double calculateVolume() {
        return Math.PI * Math.pow(radius,2) * height;
    }

    @Override
    public double calculateArea() {
        return 2 * Math.PI * radius * (radius+height);
    }

    @Override
    public double calculatePerimeter() {
        return (8 * Math.PI * radius) + (2 * height);
    }
}
```

```java
package com.company;

import com.company.InheritanceProblem.*;

public class Main {

    public static void main(String[] args) {
        Square square1 = new Square(5);
        Rectangle rectangle1 = new Rectangle(3,4);
        Circle circle1 = new Circle(5);
        Cube cube1 = new Cube(7);
        Cylinder cylinder1 = new Cylinder(2,4);
        Prism prism1 = new Prism(2,3,4);

        square1.GetInfosAboutShape();
        System.out.println();

        rectangle1.GetInfosAboutShape();
        System.out.println();

        circle1.GetInfosAboutShape();
        System.out.println();

        cube1.GetInfosAboutShape();
        System.out.println();

        cylinder1.GetInfosAboutShape();
        System.out.println();

        prism1.GetInfosAboutShape();
        System.out.println();
    }


}
```

```
C:\Users\sahin\.jdks\openjdk-17\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2021.2.2\lib\
idea_rt.jar=51959:C:\Program Files\JetBrains\IntelliJ IDEA 2021.2.2\bin" -Dfile.encoding=UTF-8 -classpath C:\
Users\sahin\Desktop\BachelorDegree\SecondYear\ObjectOrientedProgramming\Week6\2020OOPMidtermExam\out\production
\2020OOPMidtermExam com.company.Main
Shape : Square
Area : 25.0
Perimeter : 20.0

Shape : Rectangle
Area : 12.0
Perimeter : 14.0

Shape : Circle
Area : 78.53981633974483
Perimeter : 31.41592653589793

Shape : Cube
Volume : 343.0
Area : 294.0
Perimeter : 28812.0

Shape : Cylinder
Volume : 50.26548245743669
Area : 75.39822368615503
Perimeter : 58.26548245743669

Shape : Prism
Volume : 24.0
Area : 52.0
Perimeter : 72.0


Process finished with exit code 0
```