

```
package com.mycompany.p5q4;
import java.lang.Math;

public class P5Q4
{
    public static void main(String[] args)
    {
        Rectangle rectangle = new Rectangle("Rectangle", 10, 5);
        rectangle.display();

        Circle circle = new Circle("Circle", 5);
        circle.display();
    }
}
```

```
package com.mycompany.p5q4;
import java.lang.Math;

public class Circle extends Shape {

    public Circle(String name, double radius) {
        super(name, radius, radius);
    }

    @Override
    double calculateArea() {
        return Math.PI * radius * radius;
    }
}
```

```
package com.mycompany.p5q4;
import java.lang.Math;

public class Rectangle extends Shape {

    public Rectangle(String name, double length, double width) {
        super(name, length, width);
    }
}
```

```
@Override
double calculateArea() {
    return length * width;
}
}
```

```
package com.mycompany.p5q4;
import java.lang.Math;

abstract class Shape {
    private String name;
    private double length;
    private double width;

    public Shape(String name, double length, double width) {
        this.name = name;
        this.length = length;
        this.width = width;
    }

    public String getName() {
        return name;
    }

    public double getLength() {
        return length;
    }

    public double getWidth() {
        return width;
    }

    abstract double calculateArea();

    public void display() {
        System.out.println("The area of " + name + " is " + calculateArea());
    }
}
```