

```
import java.util.Scanner;
```

```
abstract class Shape {  
    int dimension1;  
    int dimension2;
```

```
    public Shape() {  
        this.dimension1 = 0;  
        this.dimension2 = 0;
```

```
    }
```

```
    public Shape(int dimension1, int dimension2) {  
        this.dimension1 = dimension1;  
        this.dimension2 = dimension2;  
    }
```

```
    public abstract void printArea();
```

```
}
```

```
class Rectangle extends Shape {  
    public Rectangle(int length, int width) {
```

```
        dimension1 = length;  
        dimension2 = width;
```

```
    }
```

```
    public void printArea() {
```

```
        int area = dimension1 * dimension2;  
        System.out.println("Area of Rectangle: " + area);
```

```
    }
```

```
}
```

```
class Triangle extends Shape {  
    public Triangle(int base, int height) {
```

```
        dimension1 = base;  
        dimension2 = height;
```

```

    public void printArea() {

        double area = 0.5 * dimension1 * dimension2;
        System.out.println("Area of Triangle: " + area);

    }
}

class Circle extends Shape {
    public Circle(int radius) {

        dimension1 = radius;
        dimension2 = 0;
    }

    public void printArea() {

        double area = Math.PI * dimension1 * dimension1;
        System.out.println("Area of Circle: " + area);

    }
}

public class main {

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter length and width for Rectangle:");

        int length = scanner.nextInt();
        int width = scanner.nextInt();
        Shape rectangle = new Rectangle(length, width);
        rectangle.printArea();

        System.out.println("Enter base and height for Triangle:");

        int base = scanner.nextInt();
        int height = scanner.nextInt();
        Shape triangle = new Triangle(base, height);
        triangle.printArea();

        System.out.println("Enter radius for Circle:");
    }
}

```

```
System.out.println("Enter base and height for Triangle:");
```

```
int base = scanner.nextInt();  
int height = scanner.nextInt();  
Shape triangle = new Triangle(base, height);  
triangle.printArea();
```

```
System.out.println("Enter radius for Circle:");
```

```
int radius = scanner.nextInt();  
Shape circle = new Circle(radius);  
circle.printArea();
```

```
scanner.close();
```

```
}
```

```
}|
```

```
Microsoft Windows [Version 10.0.22621.3007]  
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```

```
C:\Users\bmsce>cd Documents
```

```
C:\Users\bmsce\Documents>cd Archita
```

```
C:\Users\bmsce\Documents\Archita>javac main.java
```

```
C:\Users\bmsce\Documents\Archita>java main
```

```
Enter length and width for Rectangle:
```

```
2 3
```

```
Area of Rectangle: 6
```

```
Enter base and height for Triangle:
```

```
2 4
```

```
Area of Triangle: 4.0
```

```
Enter radius for Circle:
```

```
3
```

```
Area of Circle: 28.274333882308138
```

```
C:\Users\bmsce\Documents\Archita>
```