

Qy Develop a Java class program to create an abstract class named Shape that contains two integers and empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the class extends the class Shape. Each one of classes contain only method printArea() that prints area of given shape

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

```
abstract class Shape {
```

```
    int dim1;
```

```
    int dim2;
```

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

```
}
```

```
class Rectangle extends Shape {
```

```
    Rectangle(int length, int breadth) {
```

```
        this.dim1 = length;
```

```
        this.dim2 = breadth;
```

```
}
```

```
    void printArea() {
```

```
        int area = dim1 * dim2; // of Rectangle
```

```
        System.out.println("Area is: " + area);
```

```
}
```

```
}
```

```
class Triangle extends Shape {
```

```
    Triangle(int base, int height) {
```

this.dim1 = base;

this.dim2 = height;

}

void printArea() {

double area = 0.5 * dim1 * dim2;
of Triangle

System.out.println("Area: " + area);

}

}

class Circle extends Shape {

Circle(int radius) {

this.dim1 = radius;

}

void printArea() {

double area = ~~Math.PI~~ +

3.14159 * dim1 * dim1;

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 & breadth of Rectangle:");

int l = scanner.nextInt();

~~System~~

int b = scanner.nextInt();

Rectangle rectangle = new Rectangle(length, breadth);

rectangle.printArea();


```
System.out.print("Enter base & height of Triangle: ");
```

```
int base = scanner.nextInt();
```

```
int height = scanner.nextInt();
```

```
Triangle triangle = new Triangle(base, height);
```

```
triangle.printArea();
```

```
System.out.print("Enter radius of circle: ");
```

```
int rad = scanner.nextInt();
```

```
Circle circle = new Circle(radius);
```

```
circle.printArea();
```

```
}  
}
```

Output:

Enter length of Rectangle: 5

Enter breadth of Rectangle: 4

Area of Rectangle: 20

Enter base of the Triangle: 6

Enter height of Triangle: 3

Area of Triangle: 9.0

Enter radius of circle: 7

Area of circle: 153.9380400