

Create Java exercise including polymorphism

```
public abstract class Shape {

    public abstract double getArea();

    public void printArea(){
        System.out.println("The area is: " + getArea());
    }
}

// A subclass of shape for rectangles
class Rectangle extends Shape {
    private double width;
    private double height;

    public Rectangle(double w, double h){
        width = w;
        height = h;
    }

    public double getArea(){
        return width * height;
    }
}

// A subclass of shape for circles
class Circle extends Shape {
    private double radius;

    public Circle(double r) {
        radius = r;
    }

    public double getArea() {
        return 3.14 * radius * radius;
    }
}
```

```
}
```

```
// A subclass of shape for triangles
```

```
class Triangle extends Shape {  
    private double base;  
    private double height;
```

```
    public Triangle(double b, double h){  
        base = b;  
        height = h;  
    }
```

```
    public double getArea(){  
        return (base * height)/2;  
    }
```

```
}
```

```
public class Main {  
    public static void main(String[] args) {
```

```
        // Create an array of shapes  
        Shape[] shapes = new Shape[3];
```

```
        // Fill the array shapes with different shape objects  
        shapes[0] = new Rectangle(10, 4);  
        shapes[1] = new Circle(7);  
        shapes[2] = new Triangle(3, 7);
```

```
        for (Shape shape : shapes) {  
            shape.printArea();
```

```
        }
```

```
    }
```

```
}
```