

Chapter 9 (Abstract Class Example) Handout 2

```
public abstract class Shape
{
    private String myName;

    //constructor
    public Shape(String name)
    { myName = name; }
```

```
    public String getName()
    { return myName; }

    public abstract double area();
    public abstract double perimeter();

    public double semiPerimeter()
    { return perimeter() / 2; }
}
```

```
public class Circle extends Shape
{
    private double myRadius;

    //constructor
    public Circle(double radius, String name)
    {
        super(name);
        myRadius = radius;
    }

    public double perimeter()
    { return 2 * Math.PI * myRadius; }

    public double area()
    { return Math.PI * myRadius * myRadius; }
}
```

```
public class Square extends Shape
{
    private double mySide;

    //constructor
    public Square(double side, String name)
    {
        super(name);
        mySide = side;
    }

    public double perimeter()
    { return 4 * mySide; }

    public double area()
    { return mySide * mySide; }
}
```