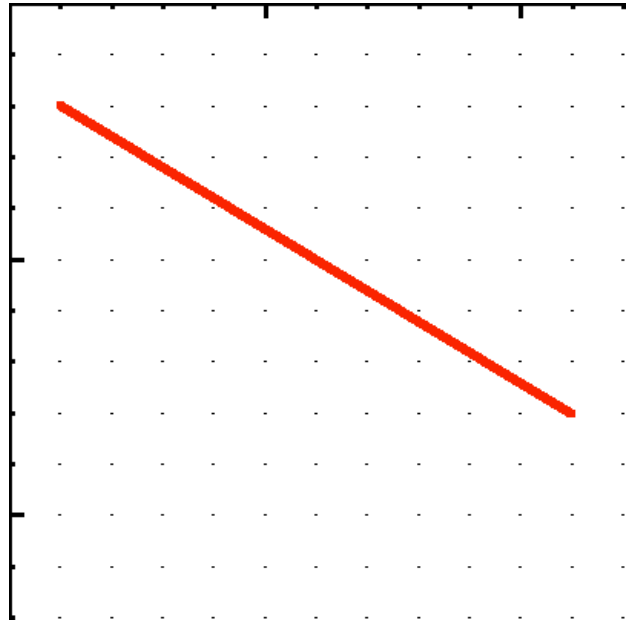


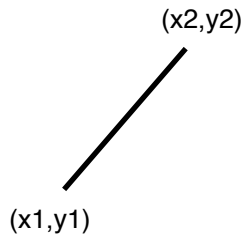
Simple Example of drawing in Java:

```
import java.awt.*;  
import javax.swing.*;  
  
public class Example extends JPanel  
{  
    //the method that does painting  
    public void paint(Graphics g)  
    {  
        //set the paint brush color  
        g.setColor(Color.RED);  
  
        //draw a red line from (1,2) to (11,8)  
        g.drawLine(1, 2, 11, 8);  
    }  
}
```



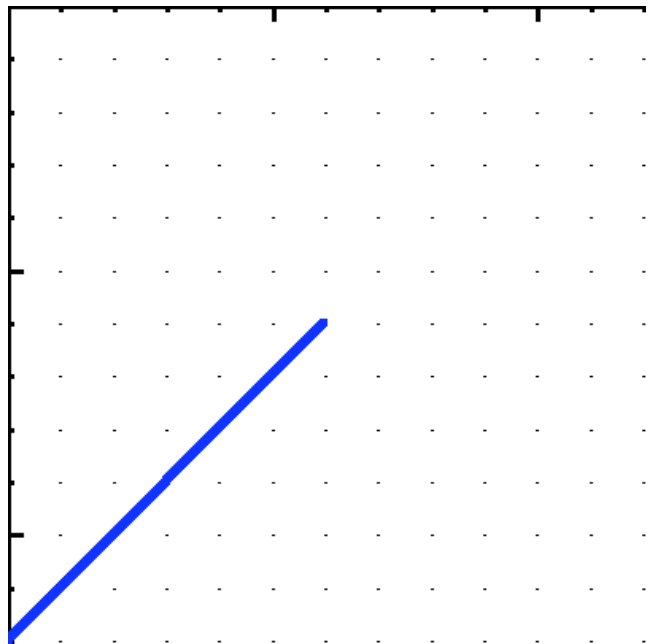
Draw Line Information (all parameters **MUST** be integers)

```
g.drawLine(x1, y1, x2, y2);
```



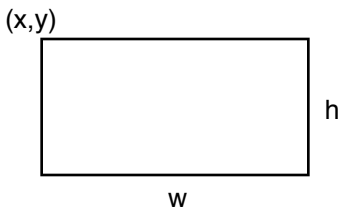
Drawing Area Dimensions

```
//the width of the drawing area  
int width = getWidth();  
  
//the height of the drawing area  
int height = getHeight();  
  
//set the paint brush to blue  
g.setColor(Color.BLUE);  
  
//draw a line from bottom left to "center"  
g.drawLine(0, height, width/2, height/2);
```



More drawing commands:

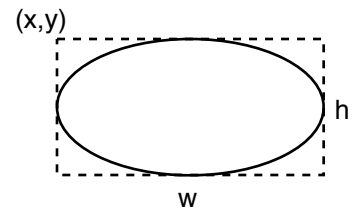
1) `g.drawRect(x, y, w, h);`



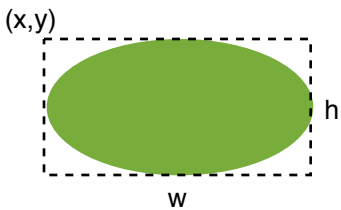
2) `g.fillRect(x, y, w, h)`



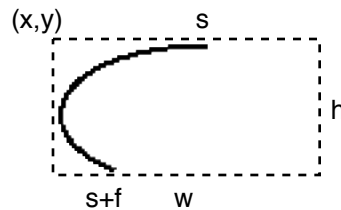
3) `g.drawOval(x, y, w, h)`



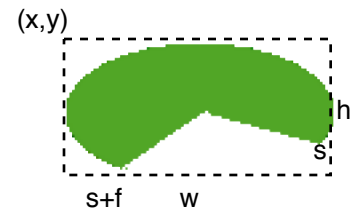
4) `g.fillOval(x, y, w, h);`



5) `g.drawArc(x, y, w, h, s, f);`

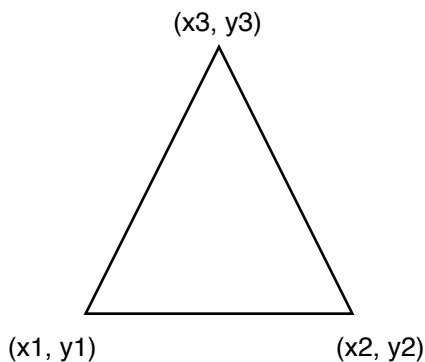


6) `g.fillArc(x, y, w, h, s, f);`

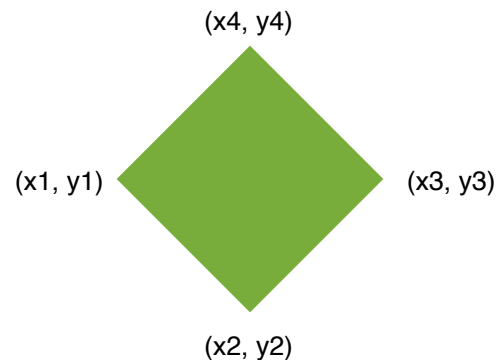


- s is the angle to start drawing at (in degrees)
 - 0 degrees is at directly due east
 - a positive angle rotates counter clockwise
- f is how many degrees to rotate while drawing
- so s + f is the angle you stop drawing at

7) `Polygon tri = new Polygon();`
`tri.addPoint(x1, y1);`
`tri.addPoint(x2, y2);`
`tri.addPoint(x3, y3);`
`g.drawPolygon(tri);`



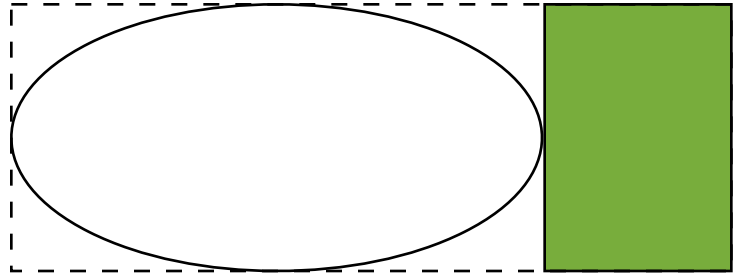
8) `Polygon quad = new Polygon();`
`quad.addPoint(x1, y1);`
`quad.addPoint(x2, y2);`
`quad.addPoint(x3, y3);`
`quad.addPoint(x4, y4);`
`g.fillPolygon(quad);`



Examples:

```
public void paint(Graphics g)
{
    g.setColor(Color.BLACK);
    g.drawRect(0, 0, 300, 100);
    g.drawOval(0, 0, 300, 100);

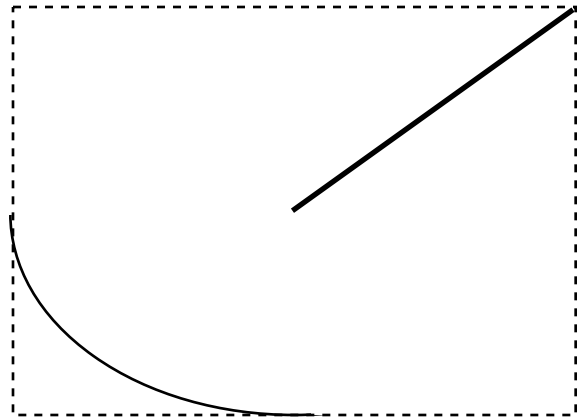
    g.setColor(Color.GREEN);
    g.fillRect(300, 0, 50, 100);
}
```



```
public void paint(Graphics g)
{
    int width = getWidth();
    int height = getHeight();

    g.setColor(Color.BLACK);
    g.drawLine(width, 0, width/2, height/2);

    g.drawArc(0, 0, width, height, 180, 90);
}
```



```
public void paint(Graphics g)
{
    int width = getWidth();
    int height = getHeight();

    g.setColor(Color.RED);
    g.fillRect(0, 0, width/2, height/2);

    g.setColor(Color.BLUE);
    g.fillRect(width/2, 0, width/2, height/2);

    g.setColor(Color.GREEN);
    g.fillRect(0, height/2, width/2, height/2);

    g.setColor(Color.YELLOW);
    g.fillRect(width/2, height/2, width/2, height/2);
}
```

