Gasket Code

```
public class Point2D {
    private final int x1;
    private final int x2;

    public Point2D(int x1, int x2) {
        this.x1 = x1;
        this.x2 = x2;
    }

    public String toString(){
        return "(" + x1 + "," + x2 + ")";
    }

    public Point2D mid(Point2D that){
        return new Point2D((x1 + that.x1) / 2, (x2 + that.x2) / 2);
    }

    public void draw(Graphics g){
        g.drawRect(x1, x2, 1, 1);
    }

    public static void main(String[] args) {
        Point2D a = new Point2D(11, 22);
        System.out.println("a = " + a);
        Point2D b = new Point2D(33,44);
        System.out.println("b = " + b);
        Point2D middle = a.mid(b);
        System.out.println("middle = " + middle);
    }
}
```

```
private void paintSG(Graphics g){
    Random random = new Random();
    Point2D pointA = new Point2D(0,0);
    Point2D pointB = new Point2D(model.getxSize(), getHeight() );
    Point2D pointC = new Point2D(getWidth(), model.getySize());
    Point2D [] sTri = {pointA, pointB, pointC};

    Point2D runner = new Point2D(getWidth() / 2, getHeight() / 2);

    g.setColor(Color.RED);
    for (int i = 0; i < 10; ++i){
        runner = runner.mid(sTri[random.nextInt(3)]);
        runner.draw(g);
    }
```

```
    g.setColor(model.getColor());
    final long STEPS = 1_000_000;
    for (long i = 0; i < STEPS; ++i){
        runner = runner.mid(sTri[random.nextInt(3)]);
        runner.draw(g);
    }
}
```

```
switch(model.getTask()){
    case ELLIPSE:
        paintEllipse(g);
        break;
    case RECTANGLE:
        paintRectangle(g);
        break;
    case COLOR:
        paintColor(g);
        break;
    case INFORMATION:
        paintStudentInfo(g);
        break;
    case SIERPINSKI_GASKET:
        paintSG(g);
        break;
    default:
        throw new RuntimeException("BUMMERRR - no such task");
}
```