

```
import static java.lang.Math.*;
public class AdvancedMath implements myMath {
    public double HeronsFormula(double p, double q,
double r) {
        double s = (p+q+r)/2;
        double area = Math.sqrt(s*(s-p)*(s-q)*(s-r));
        return area;
    }
    public void QuadraticRoots(int a, int b, int c) {
        double disc = Math.pow(b,2)-(4*a*c);
        double r1 = (-b+Math.sqrt(disc))/(2*a);
        double r2 = (-b-Math.sqrt(disc))/(2*a);
        System.out.println("Roots of (" +a+" )x^2 +
("+b+" )x + (" +c+" ) are - "+r1+" and "+r2);
    }
    public double TriangleArea(double a, double b,
double C) {
        // a,b are sides and C is angle
        double radC = Math.toRadians(C);
        return 0.5*a*b*Math.sin(radC);
    }
}
```

```
/**
 * Write an interface, called MyMath, for your own
Math Library functions.
 * Create a new class called AdvancedMath that
inherits standard Math class and
 * implement MyMath interface.
 *
 * @ Aryan Goel
 * @ 28-05-2021
 */
public interface myMath {
    double HeronsFormula(double p, double q, double
r);
    void QuadraticRoots(int a, int b, int c);
    double TriangleArea(double a, double b, double C);
}
```

```
public class TestClass {
    public static void main(String[] args) {
        AdvancedMath maths = new AdvancedMath();
        System.out.println("Area of triangle(2,3,4) by
Heron's = "+maths.HeronsFormula(2,3,4));
        System.out.println("Area of triangle(3,4,60)
by 1/2*a*b*sinC = "+maths.HeronsFormula(2,3,60));
        maths.QuadraticRoots(1,-30,221);
    }
}
```