**package** mathematics\_projects;

**import** java.lang.Math;

**public** **class** AreaCalculator {

// Square Area Calculation

**public** **static** **double** squareArea(**double** side) {

**return** side \* side;

}

// Rectangle Area Calculation

**public** **static** **double** rectangleArea(**double** length, **double** width) {

**return** length \* width;

}

// Triangle Area Calculation

**public** **static** **double** triangleArea(**double** base, **double** height) {

**return** 0.5 \* base \* height;

}

// Circle Area Calculation

**public** **static** **double** circleArea(**double** radius) {

**return** Math.***PI*** \* radius \* radius;

}

// Trapezoid Area Calculation

**public** **static** **double** trapezoidArea(**double** a, **double** b, **double** height) {

**return** 0.5 \* (a + b) \* height;

}

// Parallelogram Area Calculation

**public** **static** **double** parallelogramArea(**double** base, **double** height) {

**return** base \* height;

}

// Rhombus Area Calculation

**public** **static** **double** rhombusArea(**double** diagonal1, **double** diagonal2) {

**return** (diagonal1 \* diagonal2) / 2;

}

// Regular Polygon Area Calculation

**public** **static** **double** regularPolygonArea(**int** n, **double** sideLength) {

**return** (n \* Math.*pow*(sideLength, 2)) / (4 \* Math.*tan*(Math.***PI*** / n));

}

**public** **static** **void** main(String[] args) {

// Example usage:

**double** squareAreaResult = *squareArea*(5);

System.***out***.println("Area of square with side length 5: " + squareAreaResult);

**double** circleAreaResult = *circleArea*(7);

System.***out***.println("Area of circle with radius 7: " + circleAreaResult);

// You can call other methods similarly to calculate the area for different shapes

}

}