

Part 4**45 Points**

Write a complete program to calculate the angle, the perimeter, the area, the radius of the inscribed circle, the radius of the circumscribed circle of a polygon, and the positive difference of the two radii given the input of the length of one side (s - double) and the number of sides (n - int) from the user and these equations:

$$\text{angle} = \frac{180(n-2)}{n}$$

$$\text{perimeter} = ns$$

$$\text{area} = \frac{1}{4}ns^2 \cot(\pi/n)$$

$$\text{inscribed_radius} = \frac{1}{2}s \cot(\pi/n)$$

$$\text{circumscribed_radius} = \frac{1}{2}s \csc(\pi/n)$$

$$\cot(x) = 1/\tan(x) \quad \csc(x) = 1/\sin(x)$$