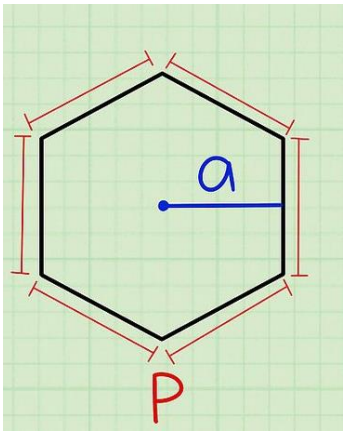
Exercise 2.

Calculate the area of a regular polygon knowing the length of every side and the numbers of side.



$$A = \frac{(S*n)*a}{2}$$

$$a = \frac{S}{2\ \tan(\frac{180}{n})}$$

Where:

S= side of length

n= number of sides

Algorithm

Input(sideLenght, nroSides): isCorrect

If(isCorrect)

    calculatePerimeter(sideLenght, nroSides):perimeter

    calculateApothem(sideLenght, nroSides):apothem

    calculateArea(perimeter, apothem):area

    print “The area is “+ area”

else:

    print “One of the parameters is not correct.”

Input(sideLenght, nrodSides): isCorrect

    isCorrect=false

    If (sideLenght > 0 and nroSides>2)

        isCorrect = true

calculatePerimeter(S,n):perimeter

    perimeter=S*n

calculateApothem(S, n):apothem

apothem=0

auxiliar=calculateTan(180/n)

apothem= S / 2*auxiliar

calculateArea(perimeter, apothem):area

area = perimeter * apothem

area = area / 2