Pre-Practical activity

This week you will be required to use a software known as Scratch for the first 3 tasks and additionally a C++ activity.
There's a desktop version but you may use the website instead: https://scratch.mit.edu/

Important information:

Add the Pen extension by clicking the blue "+" in the bottom-left corner of the Scratch editor.

Scratch Tasks:

Task	Objective
Draw a Square	Create a custom block called drawSquare with a parameter called sideLength. Define the block to move the sprite in a square pattern by repeating the following actions 4 times: Move the sprite forward by sideLength steps. Turn the sprite 90 degrees to form the corners of the square. In the main script, set the pen color, size, and initial position. Then call the drawSquare function with different values for sideLength to draw squares of different sizes.
Draw a Triangle	Create a custom block called drawTriangle with a parameter sideLength. Define the block so that the sprite moves in a triangle pattern by repeating the following actions 3 times: Move the sprite forward by sideLength steps.

	Turn the sprite 120 degrees to form the corners of the triangle (since the internal angles of an equilateral triangle are 60 degrees, the external turn angle is 120 degrees).
Draw a polygon	Create a custom block called drawPolygon with parameters sideLength and numSides. Define the block so the sprite moves in a polygon pattern. The angle for each turn should be 360 / numSides.

C++ Task:

You are required to write functions to calculate the area of different shapes (circle, rectangle, triangle, and square) and practice calling these functions with different inputs. Use the appropriate variables and return the values

Make use of the cmath library:

Area of a Circle	$\pi \times radius^2$
Area of a Triangle	$width \times height$
Area of a Rectangle	$\frac{1}{2} \times base \times height$
Area of a Square	$side\ length^2$