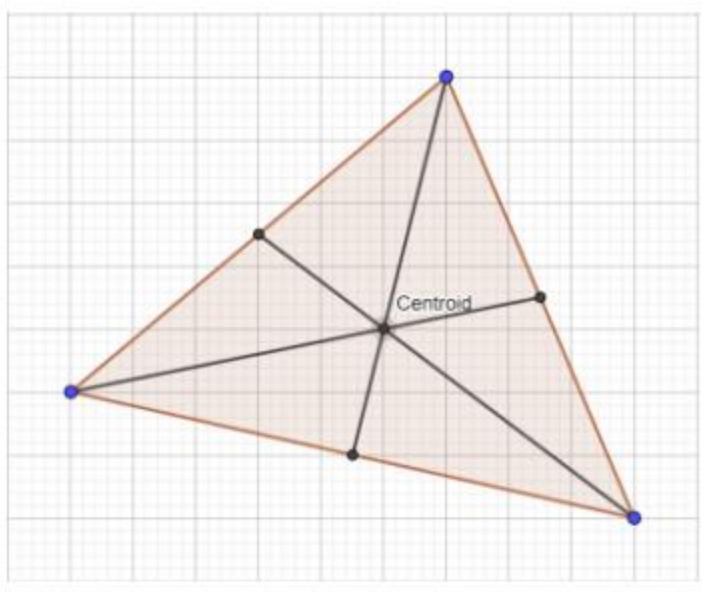
Assignment 1: The Centroid of a Triangle

Definition of the Median and Centroid of a Triangle:

A line joining a vertex of a triangle to the midpoint of the opposite side is called a median of the triangle.

The point where the three medians meet is called the centroid.



Using the digital geoboards (https://apps.mathlearningcenter.org/geoboard/)

construct the centroids of the following triangles.

- A(2,4), B(8,8), C(14,0)
- A(2,1), B(4,7), C(12,1)
- A(2,1), B(6,7), C(12,3)

In each find the ratio in which the centroid divides the median of the triangles. Justify your findings.

Assignment 2: Internal division of a line segment

Section 1: Finding the ratio m:n Use the digital geoboard to construct the following line segments and determine the ratio in which the decision point divides the line internally.

- Given A(2,5) and B(11,5), find the ratio in which the point (6,5) divides the line segment [AB]
- Given A(6,1) and B(6,8), find the ratio in which the point (6,5) divides the line segment [AB]
- Given A(2,6) and B(12,1), find the ratio in which the point (6,4) divides the line segment [AB]
- Given A(2,3) and B(12,8), find the ratio in which the point (6,5) divides the line segment [AB]
- Given A(1,8) and B(13,2), find the ratio in which the point (10,3.5) divides the line segment [AB]

Section 2: Finding the coordinates of the division point Use the digital geoboard to construct the following line segments and determine the coordinate of the point that divides the line segment in a given ratio.

- Given that A(1,7) and B(13,7), find the point that divides [AB] in the ratio 5:1
- Given that A(6,7) and B(6,1), find the point that divides [AB] in the ratio 1:2
- Given that A(1,9) and B(9,1), find the point that divides [AB] in the ratio 3:1
- Given that A(3,2) and B(13,7), find the point that divides [AB] in the ratio 2:3
- Given that A(10,8) and B(13,0), find the point that divides [AB] in the ratio 1:3