

## Geo Assessment      Properties of Quadrilaterals

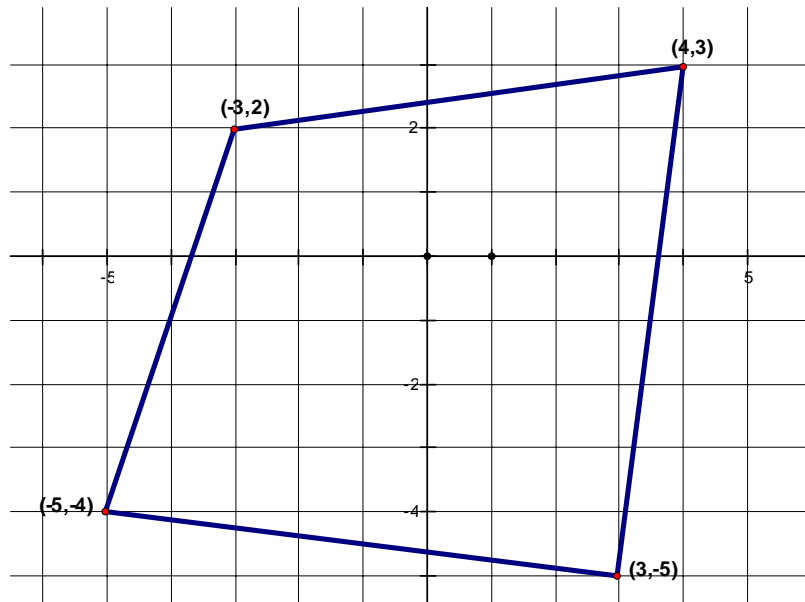
Choose the tools you prefer to do this assignment, straight edge, graph paper, Geometer's Sketchpad, etc. On your document, make certain you draw and/or explain all work. Answer all questions below on your document as well.

Geo Module 3 Assessment

### Activity 1:

Pierre Varignon was a French mathematician (164-1722), He came up with the following idea: If the midpoints of consecutive sides of any quadrilateral are connected, then the quadrilateral formed is a parallelogram.

- 1) Draw four different quadrilaterals, at least one non-convex. Find the midpoint of each side and then connect consecutive midpoints in each quadrilateral to make four new quadrilaterals.
- 2) According to your pictures, do you think Pierre Varignon was correct? Explain why you think he was right or not right.
- 3) Given the following figure, find the midpoints (algebraically) of each side of the quadrilateral. Label the points C, A, R, D, and connect them. List the coordinates of each midpoint.



- 4) Explain what you think would be the most efficient way to prove that CARD is a parallelogram.
- 5) Prove that CARD is a parallelogram.