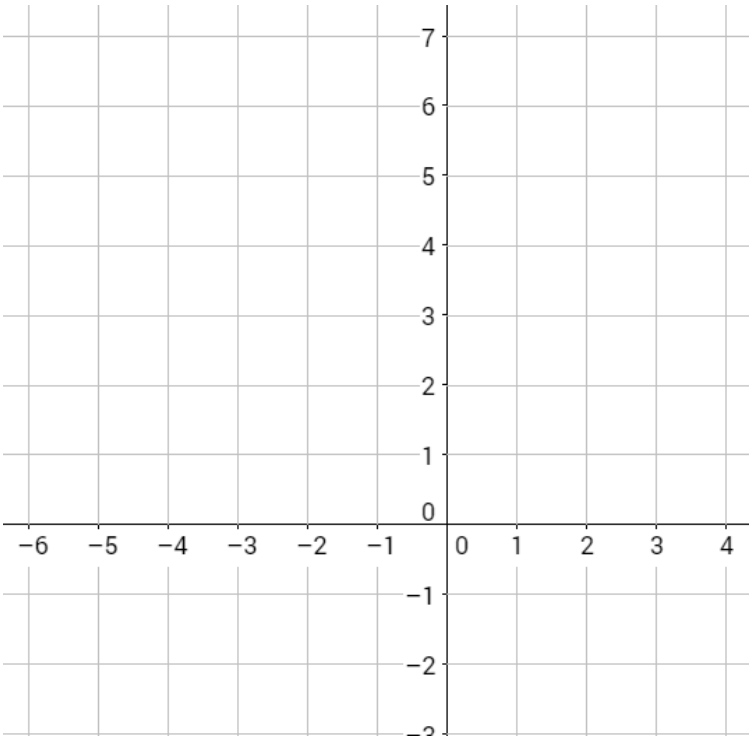
GPE-1: What quadrilateral is formed; Circle equation; Equation of Perpendicular Bisector

1. Show that the quadrilateral formed by the points A(-3,3) B(0,5) C(2,2), and D(-1,0) is a square.



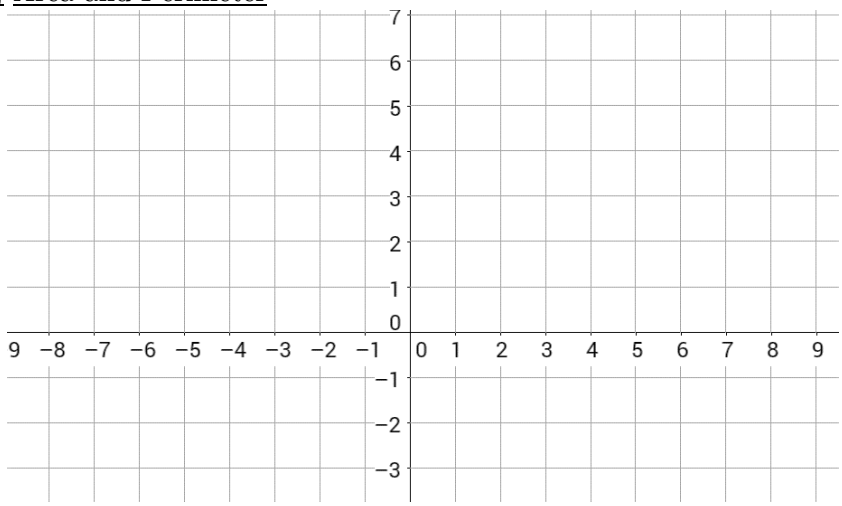
Hints (won't be given on real thing)
- Show that each diagonal's midpoint is the same point [this implies a parallelogram]
- Show that diagonals are the same length (distance) [this shows the shape is a rectangle]
- Show that diagonals have opposite reciprocal slopes (perpendicular) [this shows the shape is a rhombus]
- A rectangular rhombus parallelogram must be a square.

2. Does the point $(2, \sqrt{12})$ lie on a circle centered at the origin (0,0) with radius 4? Show the calculations that lead to your conclusion.

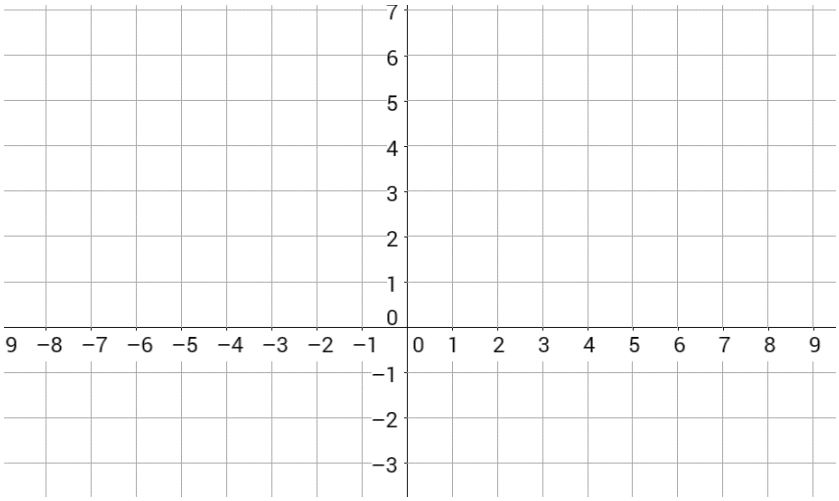
3. Write the equation of the perpendicular bisector of a line segment with endpoints A(4,3) and B(-2,1).

GPE-2: Graphing Lines, Segment Partitioning, Area and Perimeter

4. Graph the line that passes through $(3, -1)$ and is perpendicular to $y = \frac{1}{2}x + 4$



5. Find the coordinates of the point that is 2/5 of the way from A to B if A$(-7,4)$ and B$(8, -1)$



6. Find the area of ΔABC.