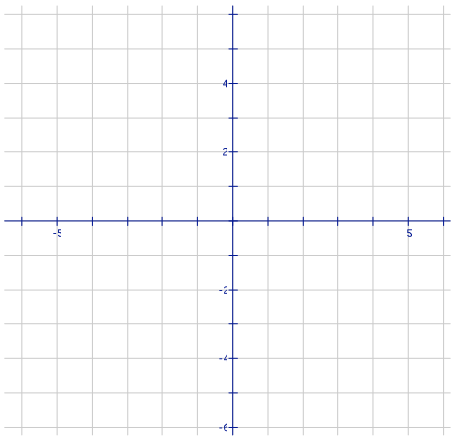
Accel Math II Applying the Determinant of Matrices Name _____
Unit #1: Matrices **MA2A7**

1. Given a triangle with vertices (-1, 0), (1,3), and (5, 0), find the area using the determinant formula. Verify that you are correct using geometric formulas.

Using matrices and determinants:



Using geometry:

2. Suppose the area of a triangle with vertices (-1, -1), (4, 7), and (9, -6). You find the area of the triangle to be -52.5 and your partner works the same problem and gets +52.5. After checking both solutions, you each have done your work correctly. How can you explain this discrepancy?

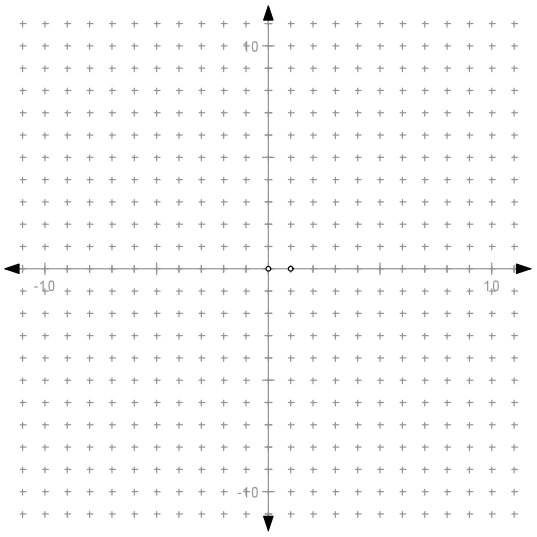
3. Suppose another triangle with vertices (1, 1), (4, 2), and (7,3) gives an area of 0. What do you know about the triangle and the points?

4. A gardener is trying to find a triangular area behind his house that encloses 1,750 square feet. He has placed the first two fence posts at (0, 50) and (40, 0). The final fence post is on the property line at y = 100. Find the place where the gardener can put the final fence post.

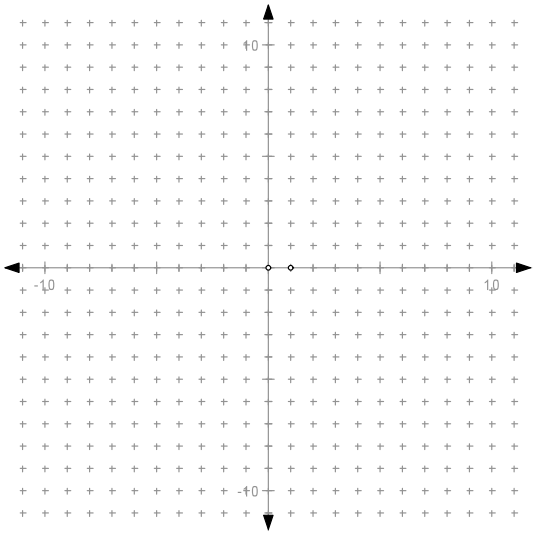
Practice Problems:

Sketch the following triangles. Use matrices to find the area. SHOW ALL WORK BELOW.

1. (2, -7), (1, 3), (10, 8)



2. (1, 1), (6, 6), and (2, 10)



3. (2,-2), (8,5), (6,-10)