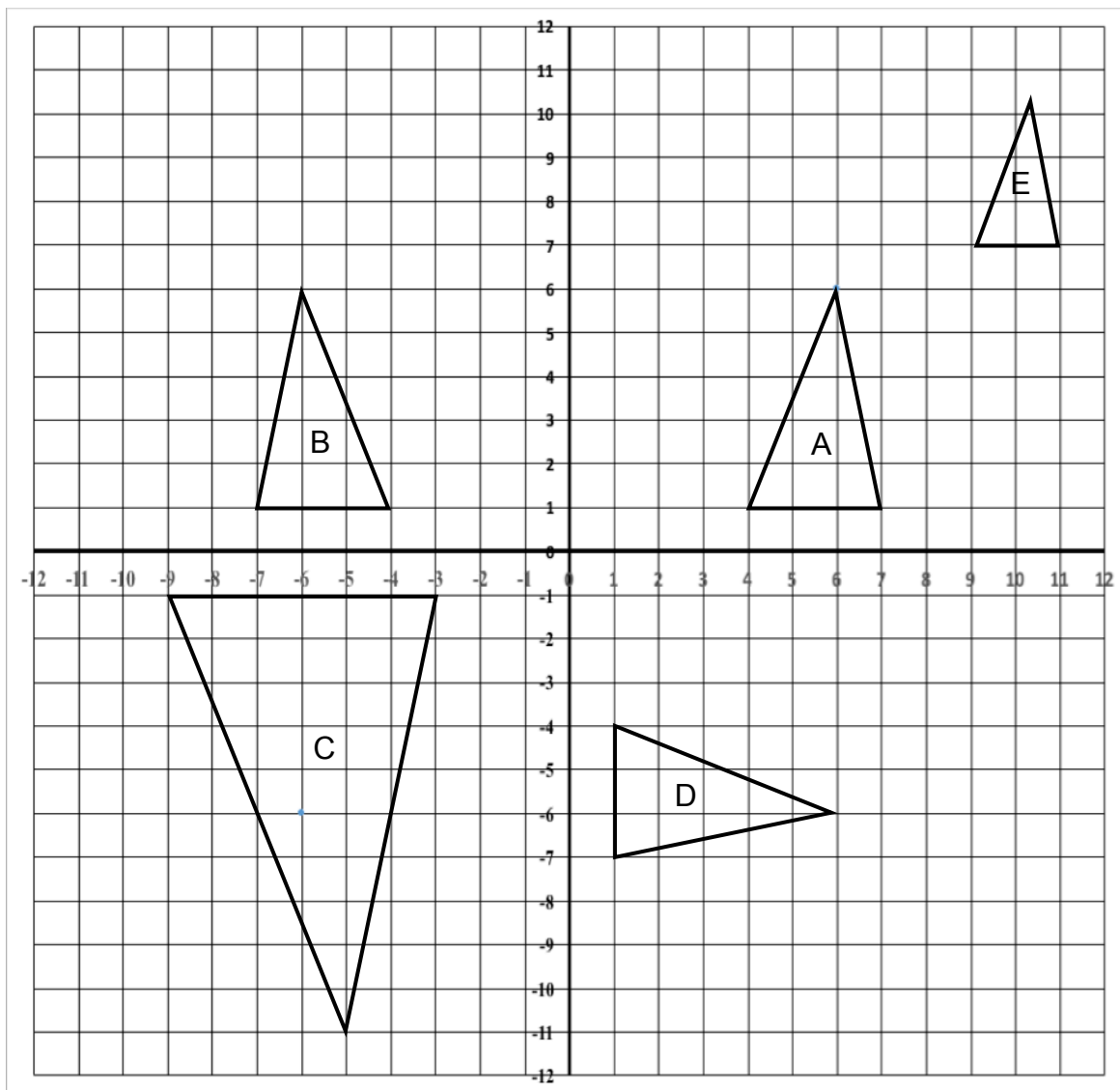# Mapping Triangles

Vanessa drew five triangles on a coordinate plane. She labeled each triangle with letters A through E. The vertices of Triangle A are $(4, 1)$, $(6, 6)$, and $(7, 1)$.

1. What is the area of Triangle A? _____ square units
    Show how you figured it out.

Triangle A is congruent to Triangle B.

2. Describe a transformation that maps Triangle A to Triangle B.

_____

_____

List the corresponding vertices between the two triangles.

_____

Triangle A is similar to Triangle C.

3. Describe the set of transformations that could verify that they are similar.

_____

_____

Triangle A can be rotated about the origin to show that it is congruent to Triangle D.

4. What is the direction and angle of the rotation? _____

How do you know for sure? _____

_____

Triangle A maps to Triangle E through a dilation.

5. What is the scale factor of the dilation?   _____

What is the area of Triangle E?   _____ square units
Show how you figured it out.