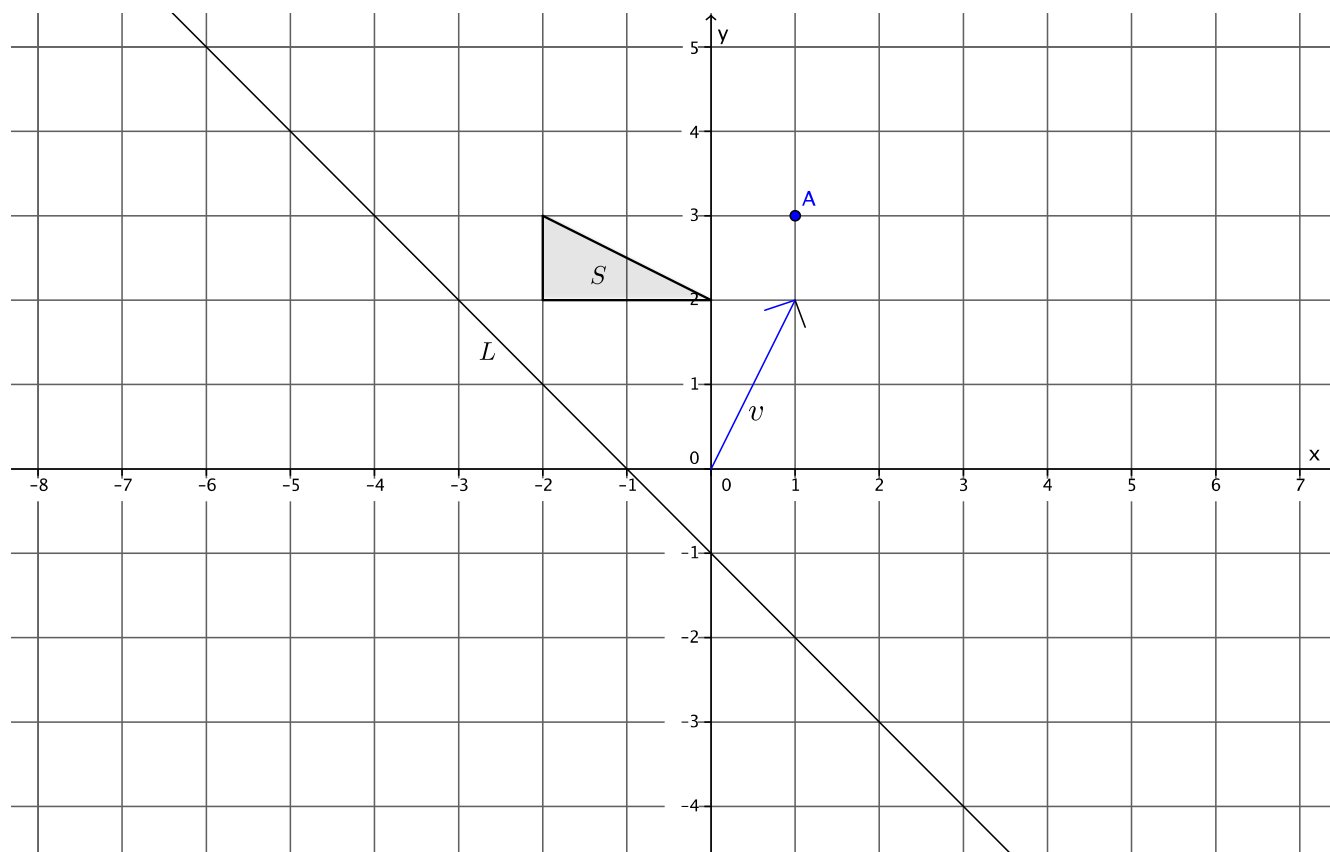


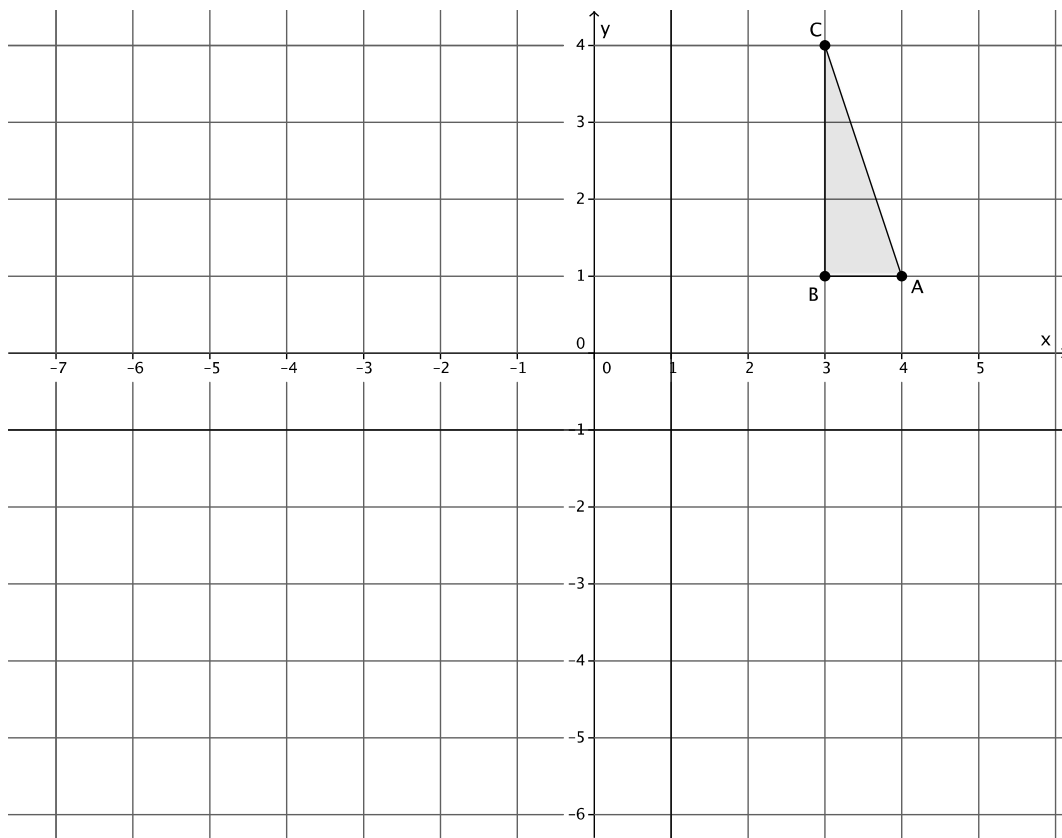
Problem Set

1. Let there be the translation along vector \vec{v} , let there be the rotation around point A , -90 degrees (clockwise), and let there be the reflection across line L . Let S be the figure as shown below. Show the location of S after performing the following sequence: a translation followed by a rotation followed by a reflection.



2. Would the location of the image of S in the previous problem be the same if the translation was performed last instead of first; that is, does the sequence, translation followed by a rotation followed by a reflection, equal a rotation followed by a reflection followed by a translation? Explain.

3. Use the same coordinate grid to complete parts (a)–(c).



- Reflect triangle ABC across the vertical line, parallel to the y -axis, going through point $(1, 0)$. Label the transformed points A, B, C as A', B', C' , respectively.
- Reflect triangle $A'B'C'$ across the horizontal line, parallel to the x -axis going through point $(0, -1)$. Label the transformed points of A', B', C' as A'', B'', C'' , respectively.
- Is there a single rigid motion that would map triangle ABC to triangle $A''B''C''$?