Name:

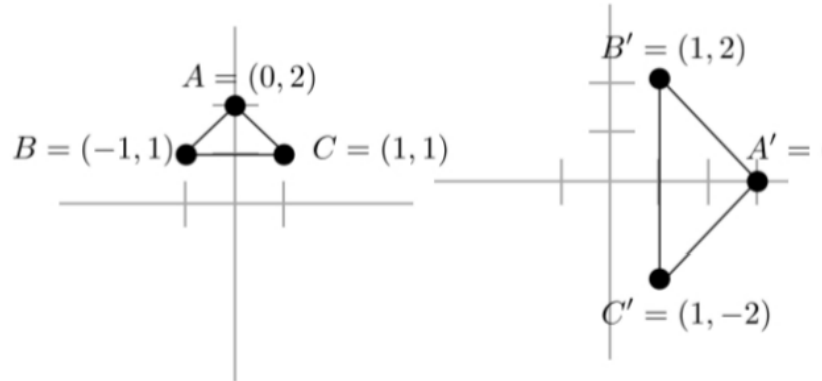**Student ID:**

CS130 Homework 3

1. Find a sequence of transformation matrices (translation, rotation, and scaling matrices) that map the triangle ABC to the triangle ABC.

2. What kinds of transformations can a rigid body undergo?

3. List all the viewing transformations in the graphics pipeline.

4. The z-buffer approach to rendering

    I.   selects which fragment to draw based on its depth

    II.   orders triangles from back to front

    III.   selects which vertices to clip based on their z-values

  (a) I only

  (b) II only

  (c) III only

  (d) I and II only

  (e) I, II and III

5. (T/F) The viewport transformation maps from normalized device coordinates to screen space.

6. (T/F) Given any matrices M_1, M_2, and M_3, it must be true that $M_3 M_2 M_1 = M_1 M_2 M_3$.