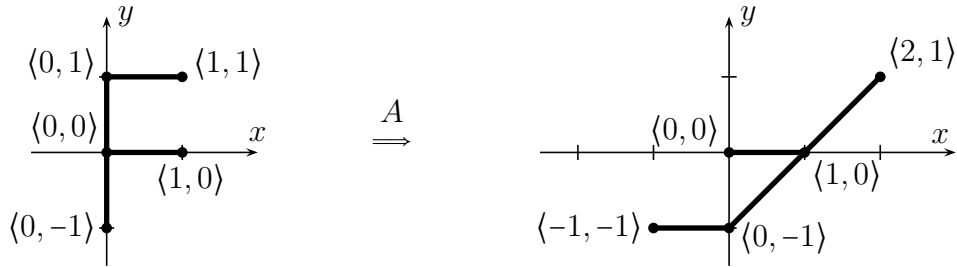**Name:**

**PID:**

Problems 2 and 3 concern the affine function $A$ which maps the "F" shape as shown:



**1.** Give three different homogeneous coordinate representations for the point $\langle 1, \frac{3}{2} \rangle \in \mathbb{R}^2$.

**2.** Give a $3 \times 3$ matrix which, when acting on homogeneous coordinates, represents the transformation $A : \mathbb{R}^2 \to \mathbb{R}^2$ shown above.

**3.** Now give a $3 \times 3$ matrix which, when acting on homogeneous coordinates, represents the inverse $A^{-1}$ of the transformation $A$.