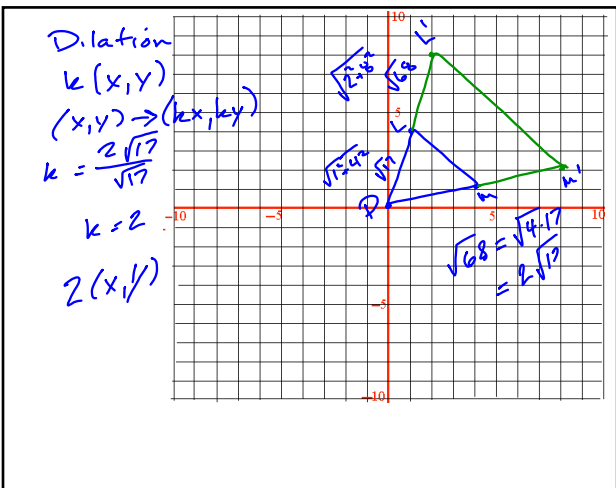
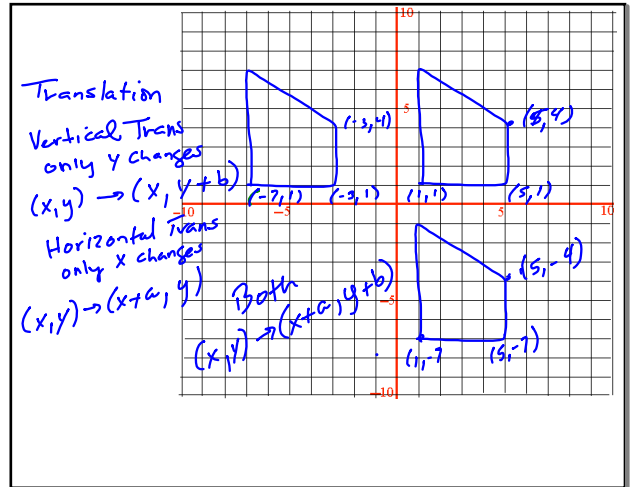
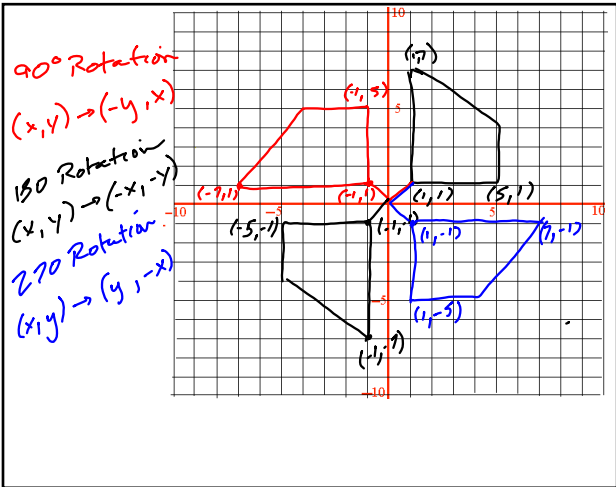
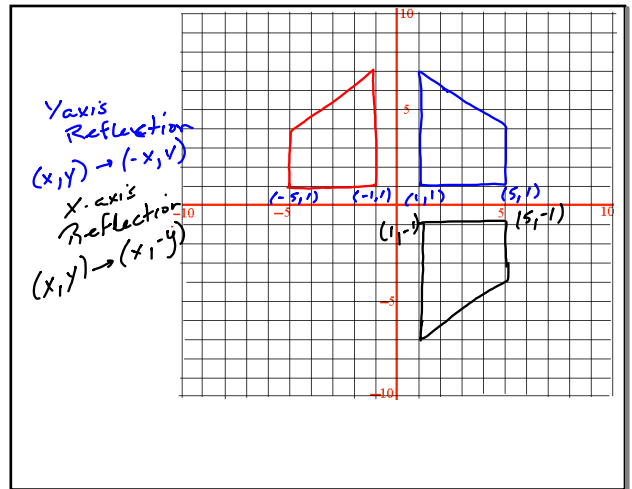


5.4 Coordinate Transformations

- Reflection
- Rotation
- Translation



Dilation
 scale factor
 $k = \frac{\text{New Distance}}{\text{original distance}}$

Matrix Notation

$$\begin{bmatrix} x \\ y \end{bmatrix}$$

$$\begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} A & B & C \\ 2 & 2 & 3 \\ 1 & 7 & 7 \end{bmatrix} \text{ Y-axis Reflection}$$

$$\begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -y \\ x \end{bmatrix}$$

[always 2 zeros] follow to find translation
other 2 are 1,-1

$$\begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 2x \\ 2y \end{bmatrix} \text{ dilation } k=2$$