Reflections

$$
\begin{aligned}
& \mathbf{r}_{\mathrm{x} \text {-axis }}(\mathbf{x}, \mathbf{y}) \longrightarrow(\mathbf{x},-\mathbf{y}) \\
& \mathbf{r}_{\mathrm{y} \text {-axis }}(\mathbf{x}, \mathbf{y}) \longrightarrow(-\mathbf{x}, \mathbf{y}) \\
& \mathbf{r}_{\mathrm{y}=\mathrm{x}}(\mathbf{x}, \mathbf{y}) \longrightarrow(\mathbf{y}, \mathbf{x}) \\
& \mathbf{r}_{\mathrm{y}=-\mathrm{x}}(\mathbf{x}, \mathbf{y}) \longrightarrow(-\mathbf{y},-\mathbf{x}) \\
& \mathbf{r}_{\text {origin }}(\mathbf{x}, \mathbf{y}) \longrightarrow((-\mathbf{x},-\mathbf{y})
\end{aligned}
$$



For the points $A$ through $L$, find their images

1. in a reflection over the $x$-axis
2. in a reflection over the $y$-axis
3. in the line $y=x$
4. in the line $y=-x$
5. over the origin
