

# Combined Transformations

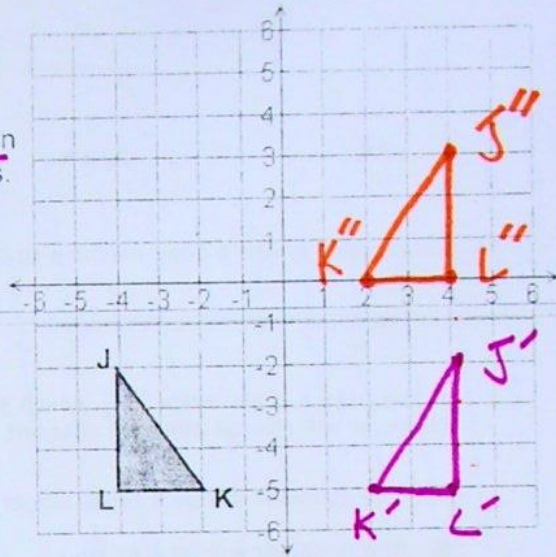
A combined transformation is just a series of two or more transformations performed on the same figure.

## EXAMPLES of Double Transformations

1. Using triangle JKL, find each point of reflection over the y-axis and then a translation up 5 units.

$$\begin{array}{l} J \quad (-4, -2) \quad J' \quad (4, -2) \quad J'' \quad (4, 3) \\ K \quad (-2, -5) \quad K' \quad (2, -5) \quad K'' \quad (2, 0) \\ L \quad (-4, -5) \quad L' \quad (4, -5) \quad L'' \quad (4, 0) \end{array}$$

Draw triangle J'K'L' and J''K''L''



2. Using figure PQR, find each point for a rotation 180° about the origin and a translation right 5 units and up 1 units.

$$\begin{array}{l} P \quad (1, 1) \quad P' \quad (-1, -1) \quad P'' \quad (4, 0) \\ Q \quad (2, 5) \quad Q' \quad (-2, -5) \quad Q'' \quad (3, -4) \\ R \quad (3, 1) \quad R' \quad (-3, -1) \quad R'' \quad (2, 0) \end{array}$$

Draw triangle P'Q'R' and P''Q''R''

