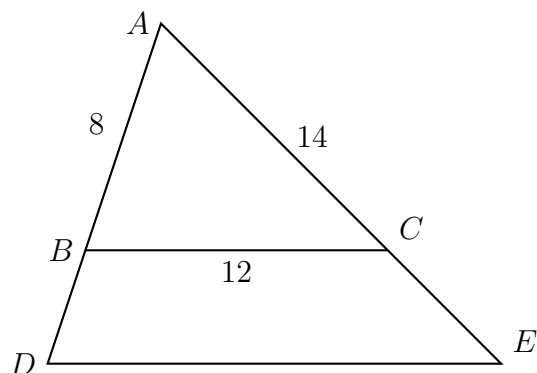


7-6HW-Symmetry

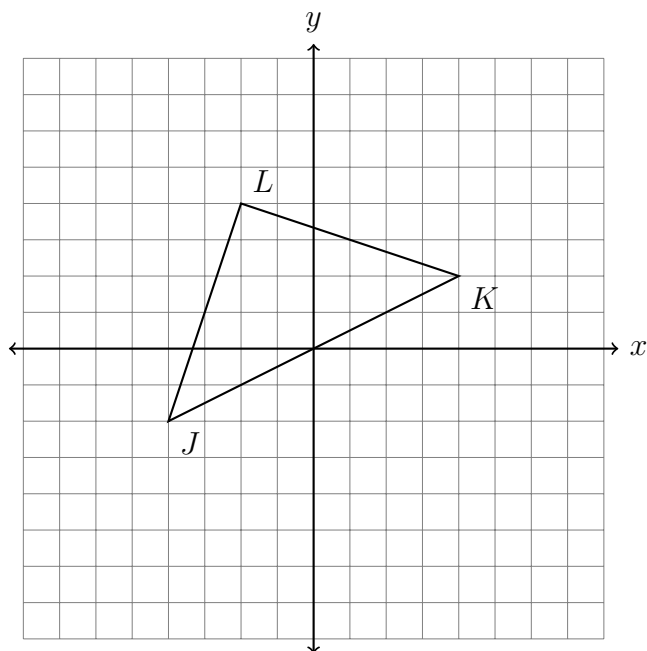
1. Triangle ABC is dilated with a factor of $\frac{5}{4}$ centered at A , yielding $\triangle ADE$, as shown. Given $AB = 8$, $BC = 12$, and $AC = 14$.

Find BD , AE , and DE .

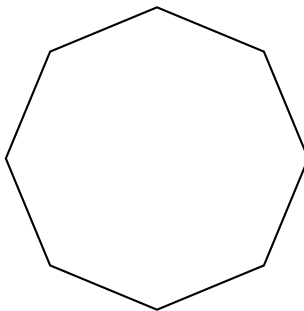


2. The vertices of $\triangle JKL$ have the coordinates $J(-4, -2)$, $K(4, 2)$, and $L(-2, 4)$, as shown.

Apply a dilation to $\triangle JKL \rightarrow \triangle J'K'L'$, centered on the origin and with a scale factor $k = 1.5$. Draw the image $\triangle J'K'L'$ on the set of axes below, labeling the vertices, and make a table showing the correspondence of both triangles' coordinate pairs.



3. What is the smallest non-zero angle of rotation about its center that would map the octagon onto itself?



4. The vertices of $\triangle JKL$ have the coordinates $J(-4, -2)$, $K(-1, -1)$, and $L(-2, 3)$, as shown below.

Apply a translation of $(x, y) \rightarrow (x - 3, y + 2)$ to $\triangle JKL$ and then reflect the image across the y -axis. Draw both images $\triangle J'K'L'$ and $\triangle J''K''L''$ on the set of axes below, labeling the vertices.

