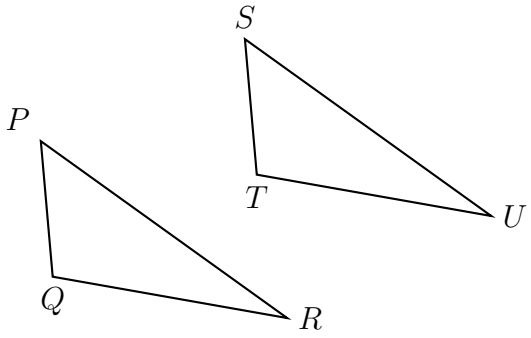
7.6 Do Now: Similarity transformations and the tangent function

1. A translation maps triangle PQR onto triangle STU.



Write each corresponding object.

(a) $Q \to$ _____

(b) $\angle QRP \cong$ _____

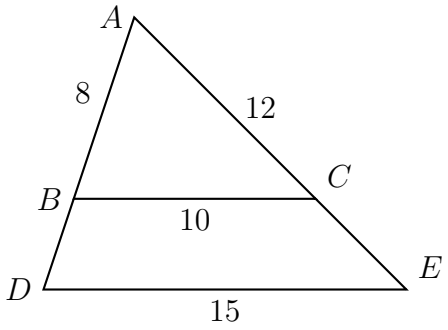
(c) _____ $\cong \overline{ST}$

(d) Justify $\triangle PQR \cong \triangle STU$. Use the words "rigid motion".

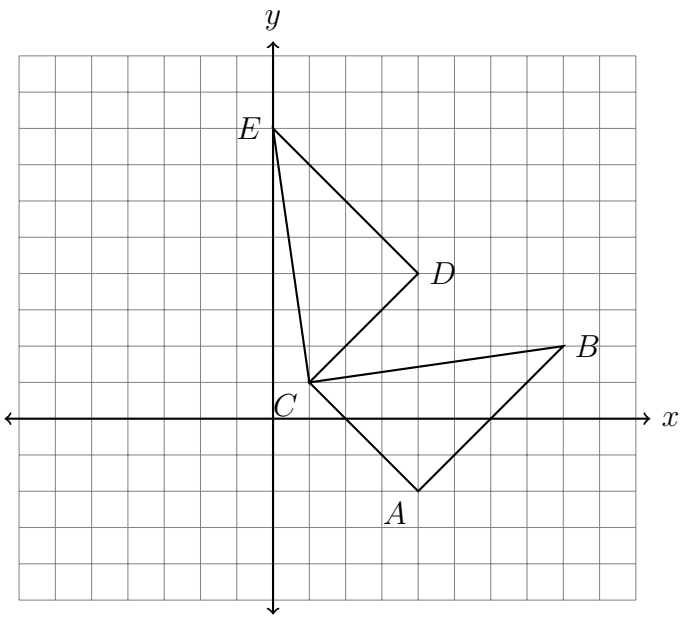
2. Given $\triangle JKL \sim \triangle MNO$. $m\angle K = 40°$ and $m\angle M = 100°$.
Find the measure of $\angle L$.

3. Triangle ABC is dilated with a scale factor of k centered at A, yielding $\triangle ADE$, as shown. Given $AB = 8$, $BC = 10$, $AC = 12$, and $DE = 15$.

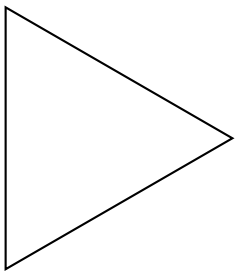
Find AD, CE, and k (the scale factor).



4. What transformation maps $\triangle ABC$ onto $\triangle DEC$, shown below? Fully specify the transformation.



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



6. Given right $\triangle ABC$ with $\overline{AC} \perp \overline{BC}$, $BC = 11.2$, $m\angle B = 63°$. Let $x = AC$. Find x.