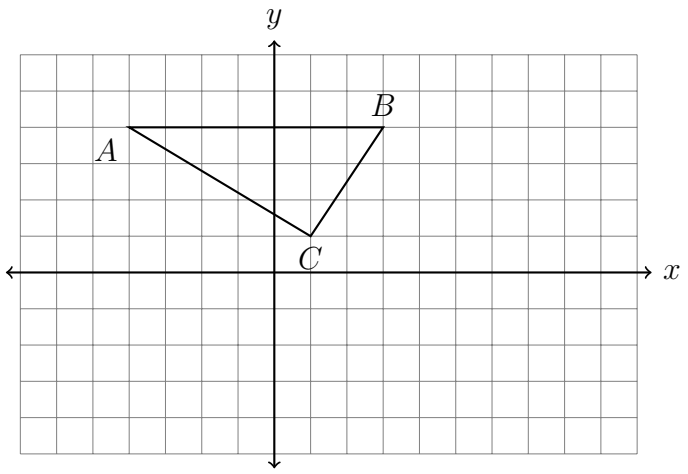
9.1 Do Now: Transformations and corresponding parts

1. Translate $\triangle ABC$ by $(x, y) \to (x + 3, y - 5)$. Label the image $\triangle A'B'C'$.



2. What transformation maps $\triangle ABC$ onto $\triangle DEC$, shown below? Fully specify the transformation. Complete the table of mappings to corresponding objects.

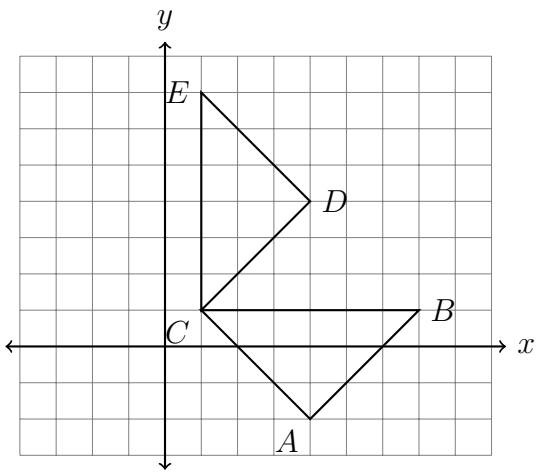
(a) $A \to$ _____

(b) $B \to$ _____

(c) $C \to$ _____

(d) $\angle ACB \cong$ _____

(e) _____ $\cong \overline{DE}$



3. Reflect $\triangle TRS$ across the y-axis, labeling the image $\triangle T'R'S'$. Check those properties that are maintained by reflection.

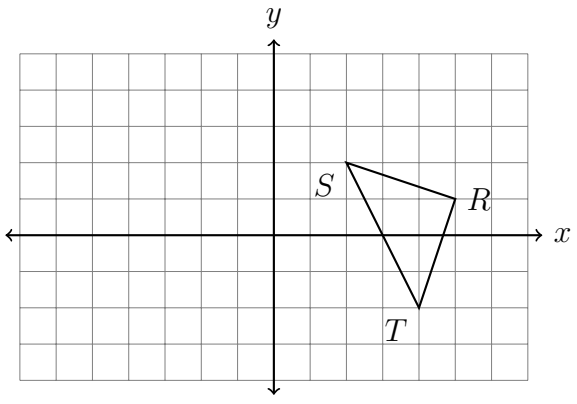
☐ Length

☐ Angle measures

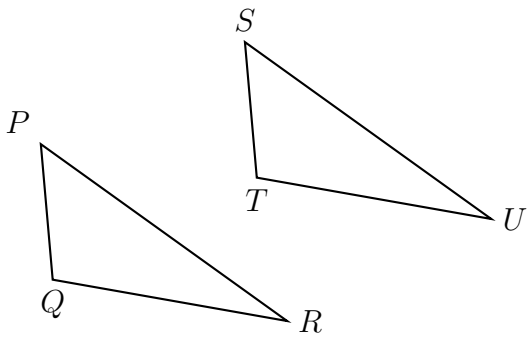
☐ Orientation

☐ Parallel relationships

☐ Area



4. A translation maps triangle PQR onto triangle STU.



Write each corresponding object.

(a) $Q \rightarrow$ _____

(b) $\angle QRP \cong$ _____

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

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

5. Check those transformations that are rigid motions.

☐ Dilation

☐ Translation

☐ Reflection

☐ Rotation

☐ An isometry

☐ Horizontal stretch

6. A rigid motion maps $\triangle DEF$ onto $\triangle LMN$. Fill in the blanks.

The following is given:

$DE = 10$
$m\angle E = 40°$
$m\angle F = 110°$

(a) $D \rightarrow$ _____

(b) $LM =$ _____

(c) $m\angle M =$ _____

(d) $\overline{LM} \cong$ _____

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