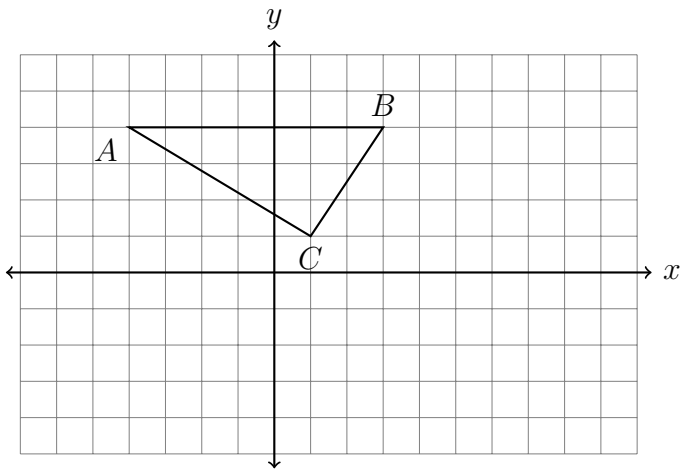
BECA / Dr. Huson / Geometry 09-Congruence-transformations Name:
pset ID: 147

**9-1DN-Correspondence**

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.

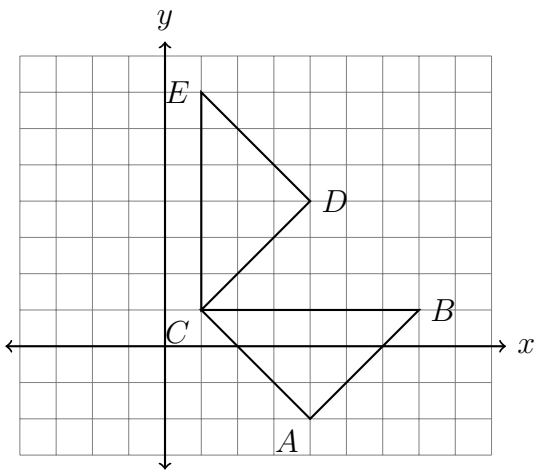
(a) $A \to$ _____

(b) $B \to$ _____

(c) $C \to$ _____

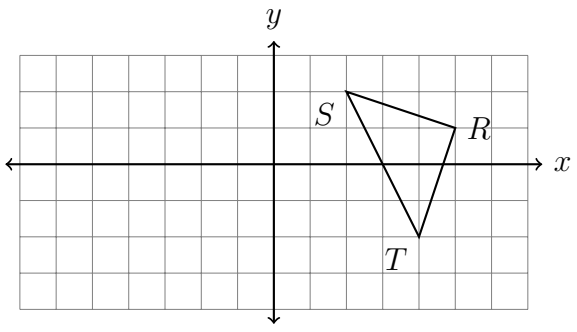
(d) $\angle ACB \cong$ _____

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

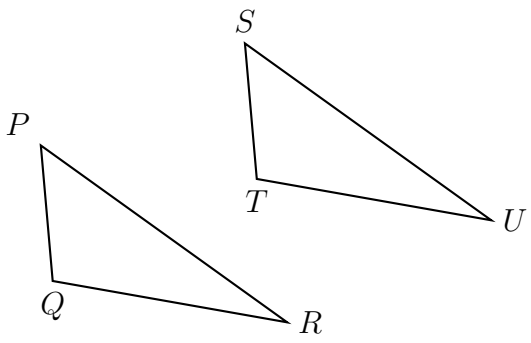



3. Reflect $\triangle TRS$ across the $y$-axis, labeling the image $\triangle T'R'S'$. Check those properties that are maintained by reflection.

☐ 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 $\angle J$.