BECA / Dr. Huson / Geometry 06-Analytic-geometry Name:
pset ID: 77

6-11bDN-Transformations

1. A dilation with $k = 3$ centered at the origin maps $\triangle DEF$ onto $\triangle LMN$.

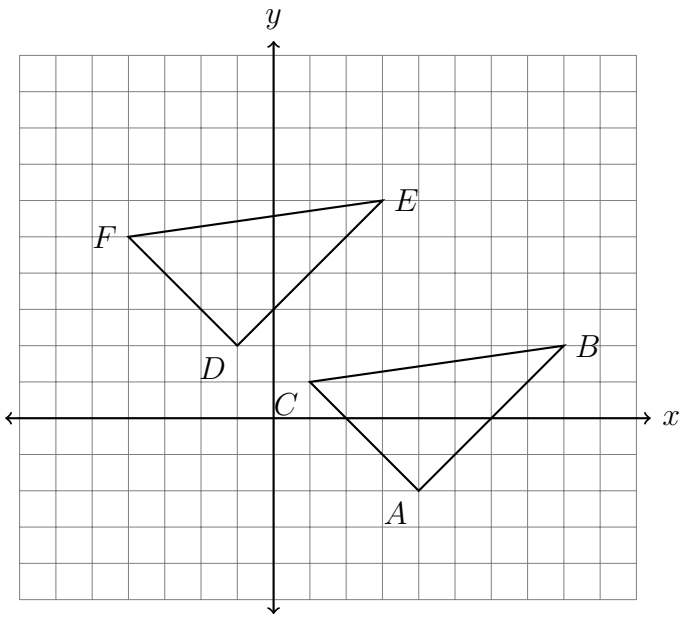
   The following is given:

   $DE = 7.5$
   $m\angle E = 43°$
   $m\angle F = 108°$
   $m\angle M = 5x + 8°$

   Fill in the blanks: (1 star each. 4 total)

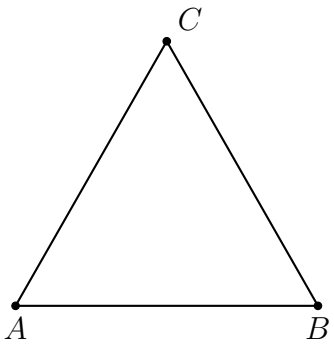
   (a) $D \rightarrow$ _____
   (b) $LM =$ _____
   (c) $m\angle M =$ _____
   (d) Solve for x

2. What translation maps $\triangle ABC$ onto $\triangle DEF$, shown below? Fully specify the transformation. (2 stars)

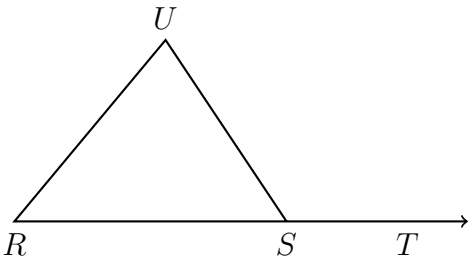


3. A translation maps $X(1, 6) \rightarrow X'(-2, 9)$. What is the image of $Y(10, -2)$ under the same translation? (2 stars)

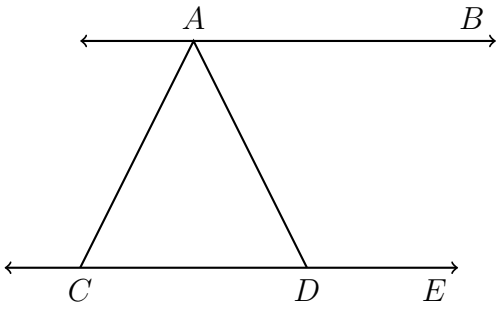
4. Given isosceles $\triangle ABC$ with $\overline{AC} \cong \overline{AB}$, $m\angle A = x$, $m\angle B = 57$, and $m\angle C = y$. Mark and label the triangle, then find x and y. (*the diagram is not to scale*)(2 stars)



5. Given isosceles $\triangle RSU$ with $\overline{UR} \cong \overline{RS}$. If $m\angle UST = 130$ find $m\angle U$. (Mark and label the diagram) (*the diagram is not to scale*)(2 stars)



6. Given parallel lines $\overleftrightarrow{AB} \parallel \overleftrightarrow{CDE}$ with $\overline{AC} \cong \overline{AD}$. If $m\angle BAD = 70$ find $m\angle ACD$. (completely mark and label the diagram) (3 stars)



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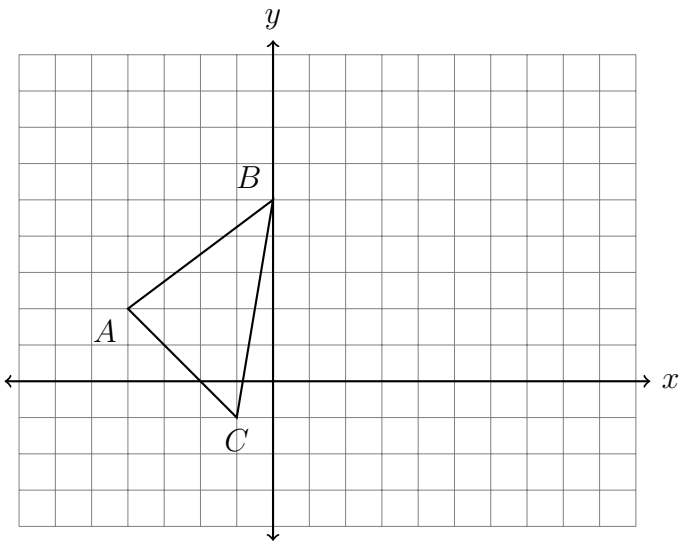
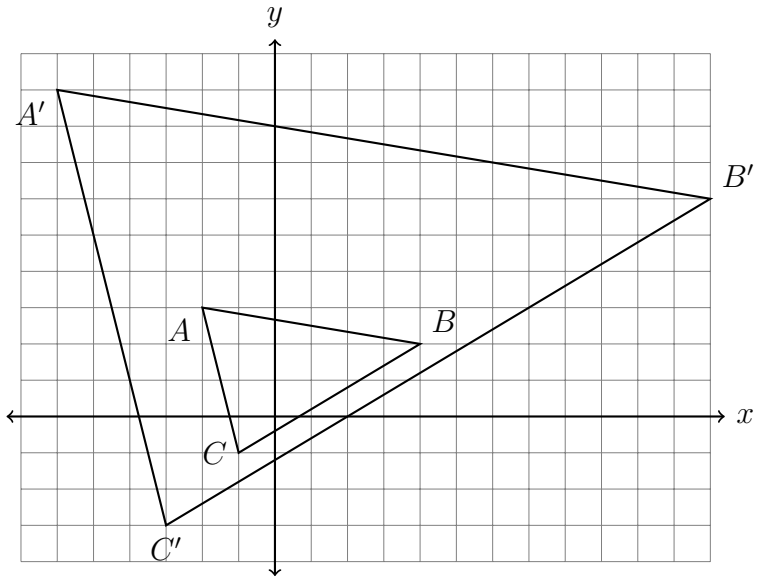
7. Find the image of $P(3, 1)$ after the translation $(x, y) \to (x - 7, y + 2)$. (1 star)

8. Translate $\triangle ABC$ by $(x, y) \to (x + 5, y - 2)$. Make a table of the coordinates and plot and label the image on the axes. (2 stars)



9. A transformation maps $\triangle ABC \to \triangle A'B'C'$. Make a table of the coordinates of both triangles and fully specify the transformation. (3 stars)



10. Two transformations are applied to $\triangle ABC$, first a dilation with scale factor $k = 2$ centered at the origin, then a translation down 5 and to the right 3. Make a table of the coordinates showing $\triangle ABC \to \triangle A'B'C' \to \triangle A''B''C''$ and plot and label the images on the axes. (3 stars)