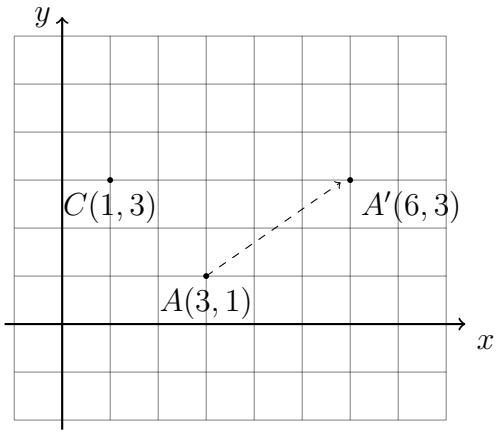
4.8 Quiz Transformations

1. A translation maps A to A', as shown, $A(3,1) \to A'(6,3)$.

   (a) What is the horizontal shift, how many squares right or left?

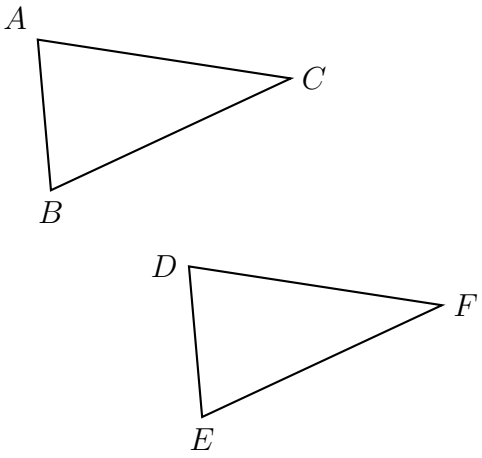
   (b) What is the vertical shift, how many squares up or down?

   (c) Apply the same translation to $C(1,3) \to C'(x,y)$. On the grid, mark and label the point C' as an ordered pair.



2. A translation maps triangle ABC onto triangle DEF.

   Fill in the blank with each corresponding object.



(a) $A \rightarrow$ _____

(b) $\angle B \cong$ _____

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

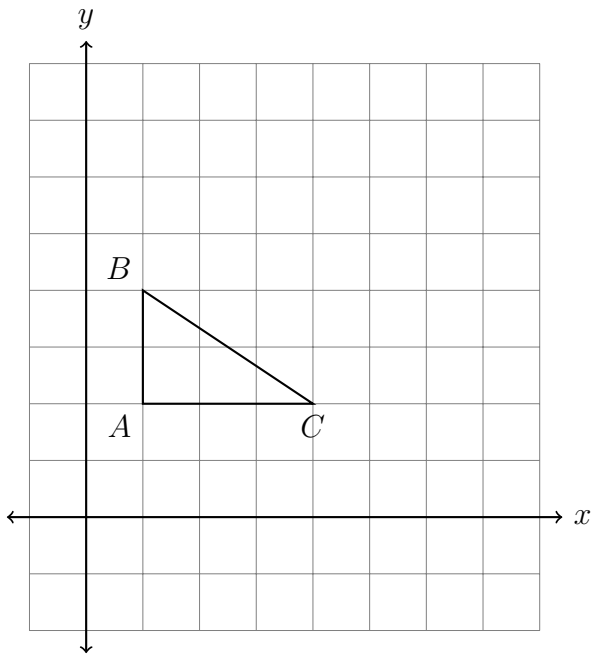
(d) Which statement best justifies $\triangle ABC \cong \triangle DEF$?

Since translation is a rigid motion, the triangle's size and shape remains the same.

A dilation centered at point A with a scale factor $k = 2$ was performed.

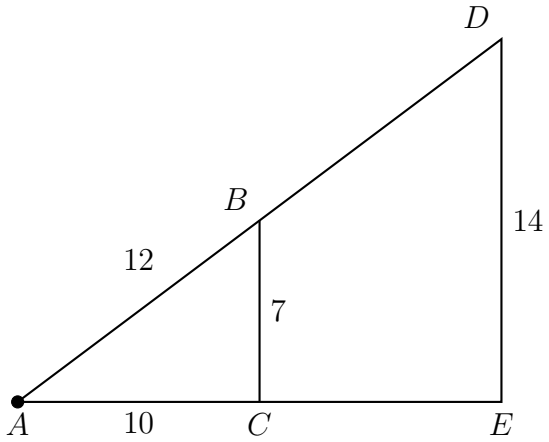
3. A translation maps $P(3,5) \to P'(2,9)$. What is the image of $Q(-3,2)$ under the same translation?

4. Translate $\triangle ABC$ by $(x, y) \to (x + 4, y - 1)$. Make a table of the coordinates and plot and label the image on the axes.

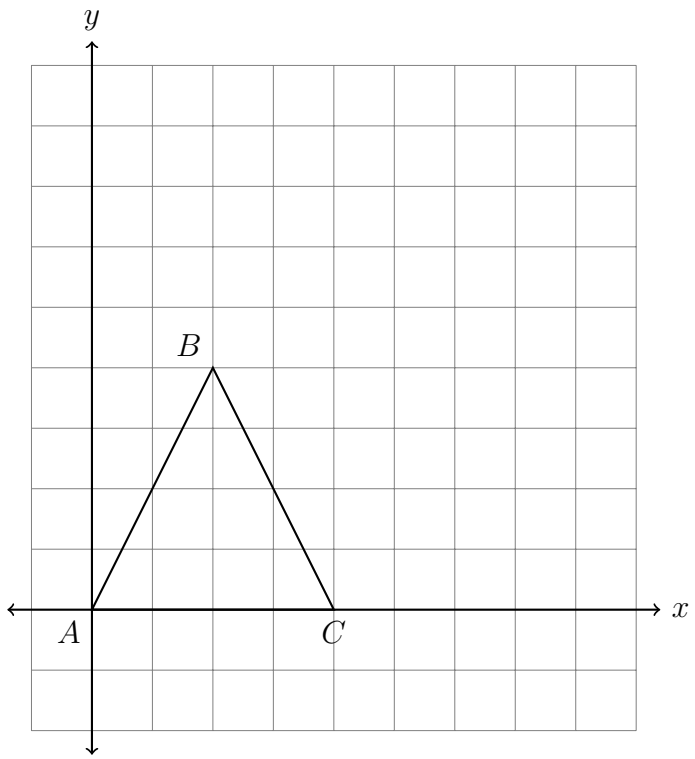


5. A dilation centered at A with scale factor $k = 2$ maps $\triangle ABC \to \triangle ADE$. Given the sides of the preimage, $AC = 10$, $BC = 7$, $AB = 12$.

   $DE = 14$, how long are AD and AE?

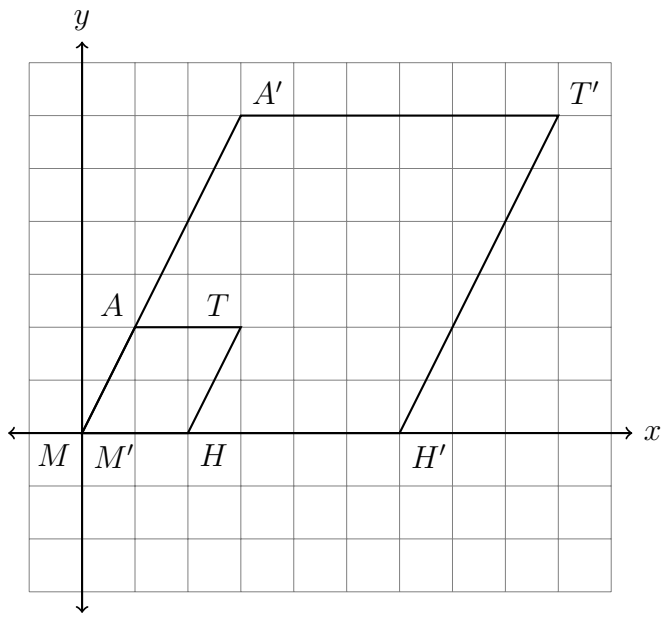


6. Dilate $\triangle ABC \to \triangle A'B'C'$ by a factor of $k = 1.5$ centered at the origin, $(x, y) \to (1.5x, 1.5y)$. Plot and label the image on the axes. Make a table of the vertices and their coordinates.



7. A transformation is performed on a parallelogram, $MATH \to M'A'T'H'$, as shown in the diagram.

   What is the transformation? (Hint: Is it a translation, reflection, rotation, or dilation? What is its center? What is the scale factor, k?)



8. Dilate $\triangle ABC \rightarrow \triangle A'B'C'$ by a factor of $k = 2.5$ centered at the origin, $(x, y) \rightarrow (2.5x, 2.5y)$. Plot and label the image on the axes. (table optional)