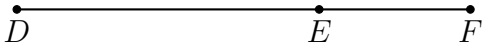
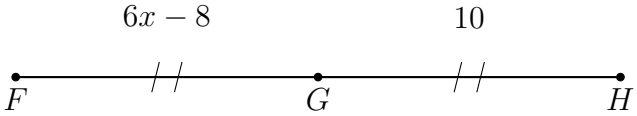
BECA/Huson/Geometry: Trigonometry First and last name:
28 January 2025 Section:

**4.13 PreTest: Cumulative review**

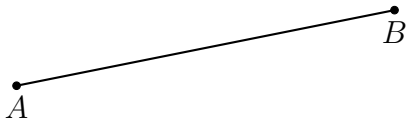
1. Given $\overline{DEF}$, $DE = 17\frac{1}{4}$, and $EF = 6$. Find $DF$.



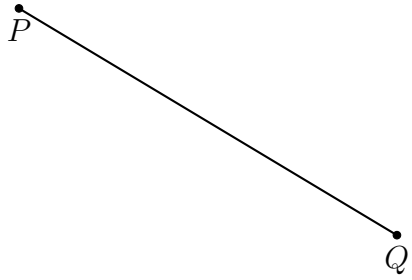

2. Point $G$ bisects $\overline{FH}$, with $FG = 6x - 8$, $GH = 10$. Find $x$.



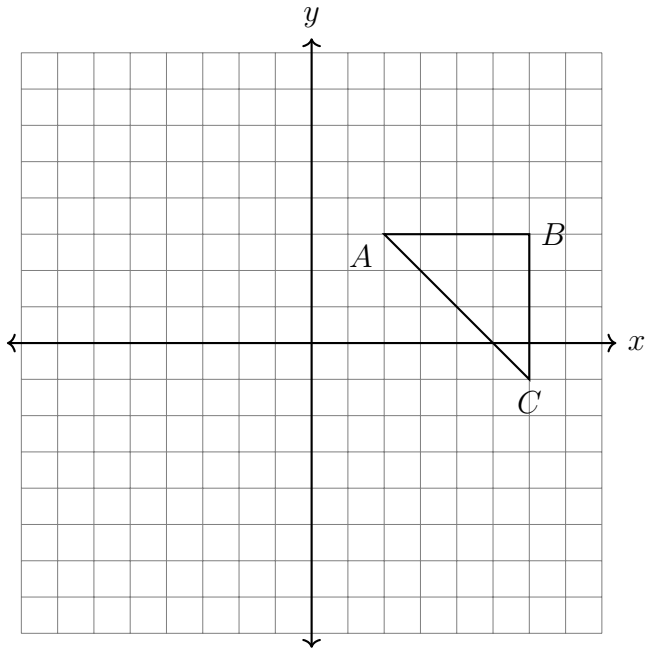

3. Construct an equilateral triangle with one side $\overline{AB}$.



4. Construct a perpendicular bisector of $\overline{PQ}$.




5. Apply a clockwise rotation of 90° centered at the origin to $\triangle ABC$. Plot and label the image on the axes below.



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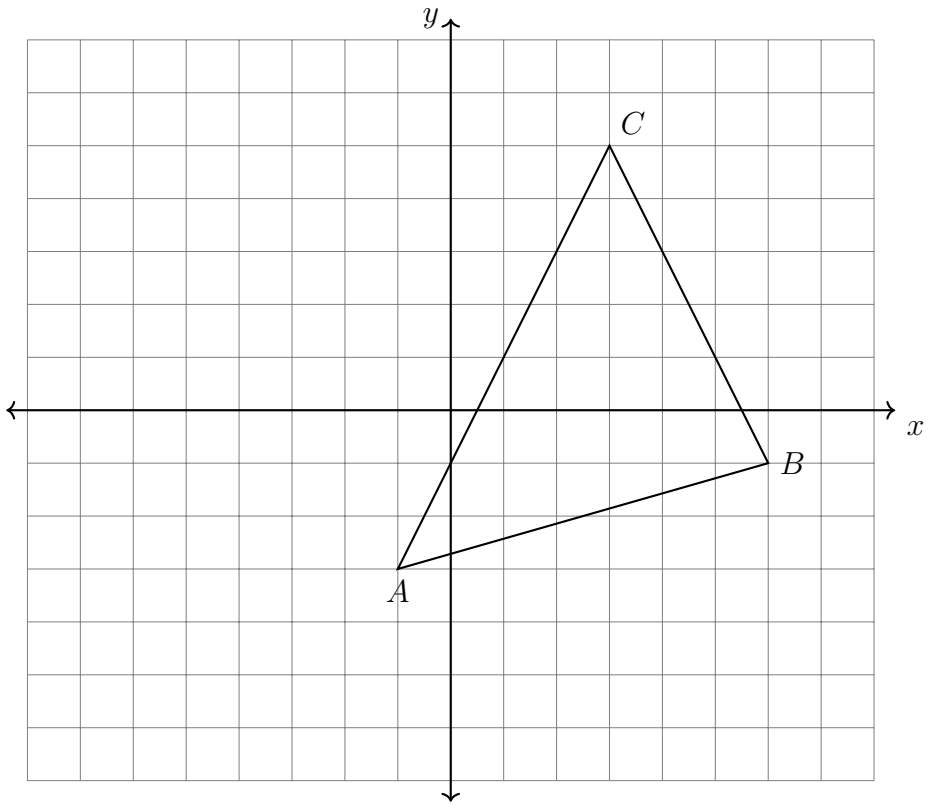
6. Reflect $\triangle ABC$ across the $y$-axis. Label the image $\triangle A'B'C'$ on the graph.




7. A translation is applied to $\triangle ABC$ moving it to the right 2 and down 5.

   (a) Write as coordinate pairs the vertices of the image, $\triangle A'B'C'$

   $A(3, 1) \rightarrow$

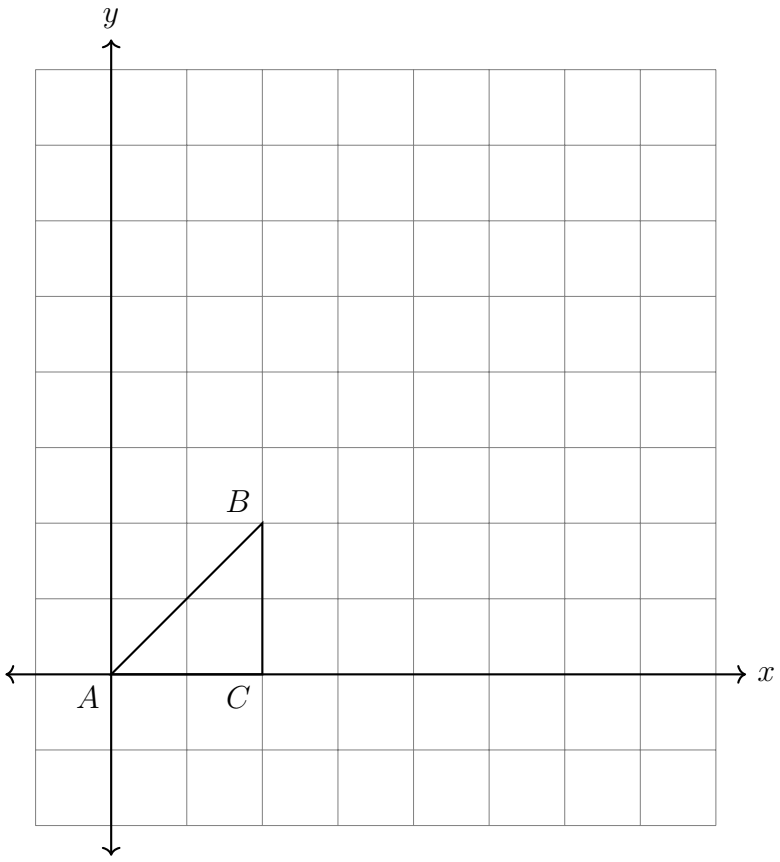
   $B(-1, -3) \rightarrow$

   $C(-2, 7) \rightarrow$

   (b) Which triangle is larger, or are they the same size? Justify your answer.

8. A translation maps $D(-2, 3) \rightarrow D'(5, 1)$. What is the image of $E(-1, 2)$ under the same translation?

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




10. A dilation centered at $A$ with scale factor $k = 2$ maps $\triangle ABC \to \triangle ADE$. Given the lengths $AC = 9$, $BC = 6$, $AB = 12$, and $DE = 14$.

    How long are $AD$ and $AE$?