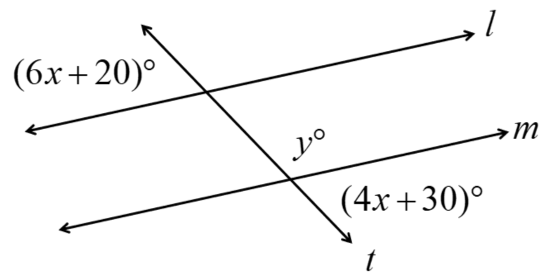
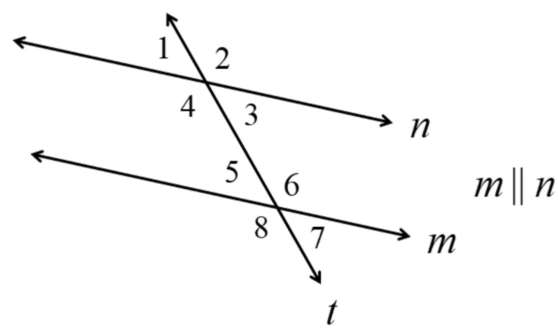
Part A: Angles [8.G.5]

1. In the diagram below, $l \parallel m$. When trying to solve for *y*, James found $y = 98°$. **Explain** the mistake James made and **explain** the correct method to solve for *y*.



2. For each angle measure below, **determine** if it is the same, supplementary, or neither with $\angle 1$.

	Same as $\angle 1$	Supplementary with $\angle 1$	Neither
$\angle 5$			
$\angle 2$			
$\angle 3$			
$\angle 7$			
$\angle 4$			



Part B: Transformations and Dilations [8.G.3]

3. Triangle ABC is shown.

A) **Rotate** Triangle ABC 90° clockwise around the origin to create Triangle A'B'C'.

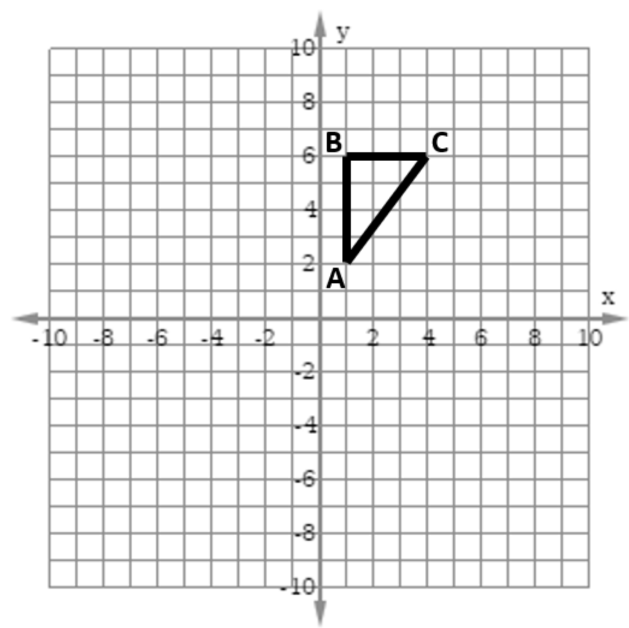
B) Write the coordinates of A', B', and C' after the transformation.

A': _______________

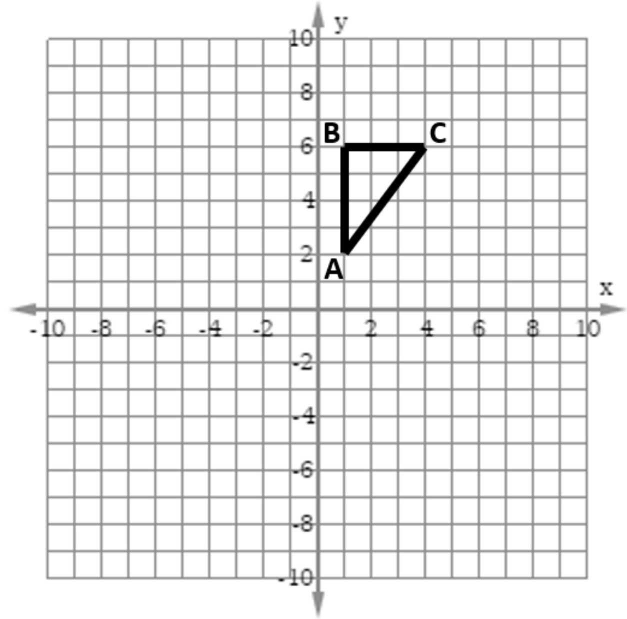
B': _______________

C': _______________

C) Are Triangles ABC and A'B'C' congruent? **Justify** your reasoning.



4. **Describe** a transformation or series of transformations that would result in Triangle ABC mapping onto Triangle EFG with E(4,-2), F(4,-6), G(7,-6).



5. Triangle ABC has vertices A(4,0), B(8,0), and C(8,12). Which of the following would not result in Triangle A'B'C' being congruent to Triangle ABC?

   A) Reflecting Triangle ABC across the y-axis.
   B) Rotating Triangle ABC 180° around the origin counter-clockwise.
   C) Translating Triangle ABC 4 units left and 10 units down.
   D) Dilating Triangle ABC by a factor of 2.

6. Figure ABCD has been rotated 180° around the origin, creating the figure with side lengths represented by e, f, g, and h.

   Prove that the figures are congruent by matching the corresponding sides and finding their measures.

   Side AB has length _________ and corresponds with side _________ with length _________.

   Side BC has length _________ and corresponds with side _________ with length _________.

   Side CD has length _________ and corresponds with side _________ with length _________.

   Side DA has length _________ and corresponds with side _________ with length _________.