FSAP 9 Name:_____

The Objects of Geometry

1. Let $A(-10, 3)$ and $B(2, -2)$. What is the length of $\overline{AB}$? What are the coordinates of the midpoint of $\overline{AB}$?
2. Using the point A and B from the previous questions, find the coordinates of points C and D so that $\overline{CD} \cong \overline{AB}$. Explain how you know they are congruent.
3. Explain why you only need to compare the length of two line segments to determine whether or not they are congruent. Is it true that for two squares you only need to know that one side length from the first square is equal to one side length from the second square to determine whether the two squares are congruent? Explain.
4. Draw a hexagon and mark each side as congruent. Does this imply that all the hexagons angles are congruent? Explain with a drawing.
5. In the figure below, How do we know that $\angle 1 \cong \angle 2$ and $\angle 3 \cong \angle 4$? Is there a way that we can move line g or line h to make $\angle 2 \cong \angle 3$?