
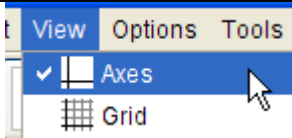
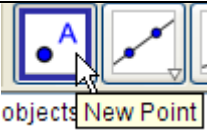
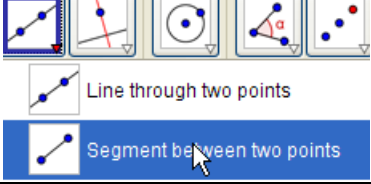
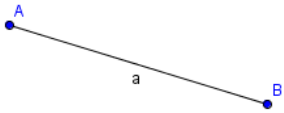
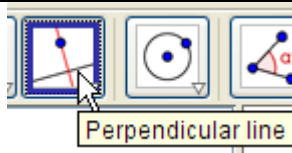
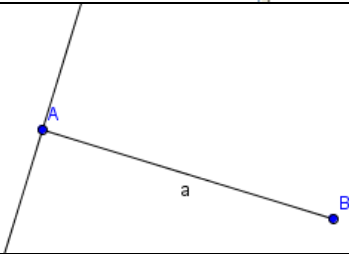
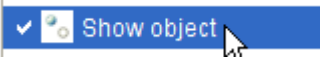
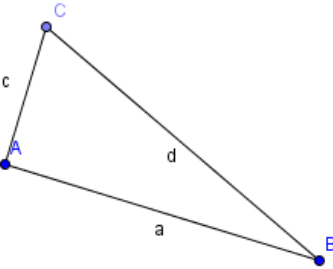
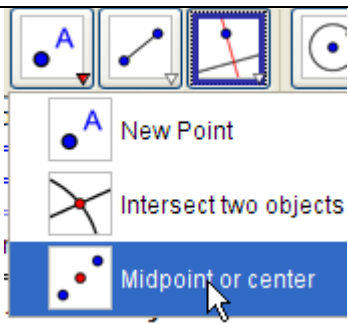
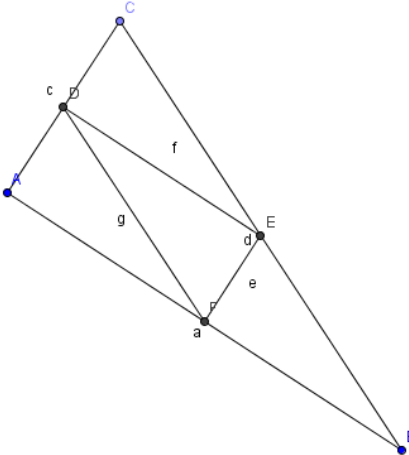
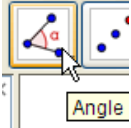


GeoGebra Investigation

Right Triangle Similarity

<p>Open a New GeoGebra Construction</p>	
<p>From the View Menu uncheck the Axes</p>	
<p>Click on the Point Tool and create 2 points anywhere on the drawing pad</p>	
<p>Click on the Line through two points tool (on the small down arrow) to expand the choices and select Segment between two points</p>	
<p>Choose the 2 points you created and construct a segment connecting them.</p>	
<p>Click on the Perpendicular Line tool.</p>	
<p>Click on one point and then click on the segment. This will construct a perpendicular line through the point.</p>	
<p>Click on the Point Tool and construct a point on the perpendicular line. Click on the Move Tool. Right-Click on the perpendicular line and uncheck Show Object. The perpendicular line will be hidden.</p>	
<p>Click on the Line Tool and the select the Segment between two points tool. Construct segments between the points to create a right triangle. Note: the points A,B, and C and the segments a,c, and d can be renamed if desired.</p>	

<p>Expand the Point Tool and choose Midpoint or center.</p>	
<p>Click on each leg of the triangle to construct the midpoints. Click on the Segment Tool and construct a small triangle inside the large one.</p> <p>Click on the Move Tool and then click on a vertex of the large triangle. Move the vertex point around changing the shape of the triangle.</p> <p>Observe the changes that occur.</p> <p>Are the two triangles similar?</p> <p>One way to prove similarity is by measuring the corresponding angles. If they are congruent, then the triangles are similar by AAA Similarity.</p>	
<p>Click on the Angle Tool.</p>	
<p>Measure the angles on the large triangle by clicking on the endpoints of the angle in order (vertex second).</p> <p>If the angle measured is outside of the triangle, click Edit - Undo and then re-measure the angle clicking the points in the opposite order.</p> <p>Measure the angles in the small interior (shaded) triangle.</p> <p>Use the Move Tool and see if there is similarity.</p> <p>Is there similarity in all four of the interior triangles? What rule, theorem, postulate proves this?</p>	