

# Explore Congruent Triangles Lab Activity

Due Date: September 22, 2014

*Geometry software can help you explore congruent triangles*

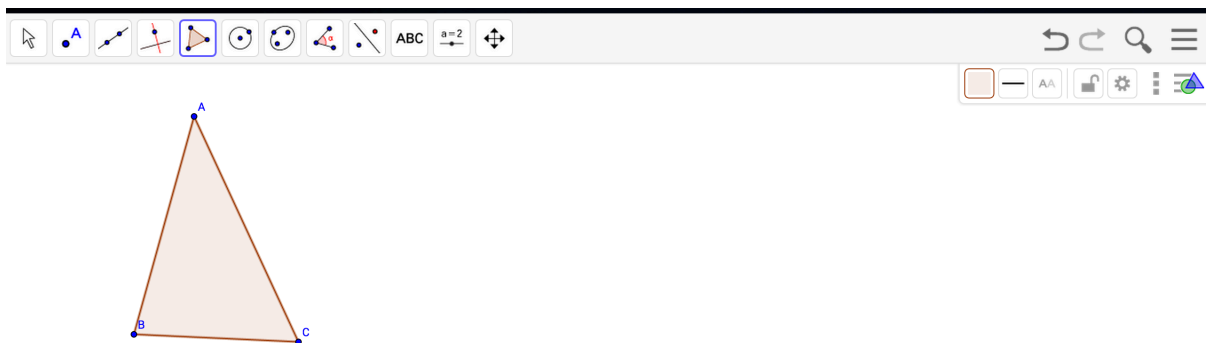
General Instruction: Complete the constructions and answer the questions in a text box using the software GeoGebra. Save the completed lab activity to your own storage device, name the file according to the following format: Period#-lastname-firstname. For example for Sally Smith's file should be called "Period1-smith-sally". Submit your completed lab activity via email at [wramos@vvhhsd.org](mailto:wramos@vvhhsd.org)

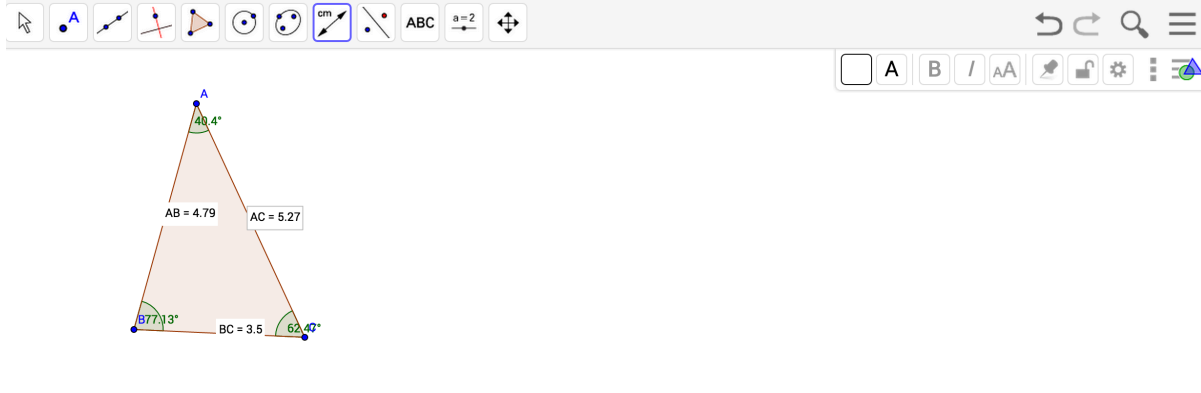
Questions to respond at the end:

1. Manipulate points A, B, C. How do points D, E, F respond?
2. Are the two triangles congruent? How do you know?

Constructions

1. Hide axes.
2. Construct  $\triangle ABC$  and measure all sides and interior angles.

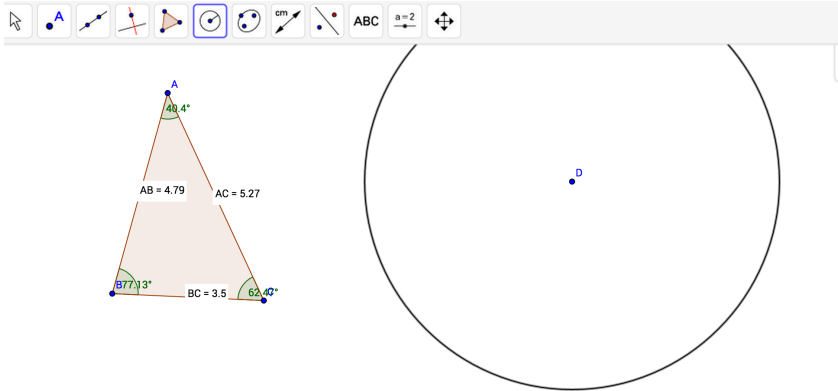
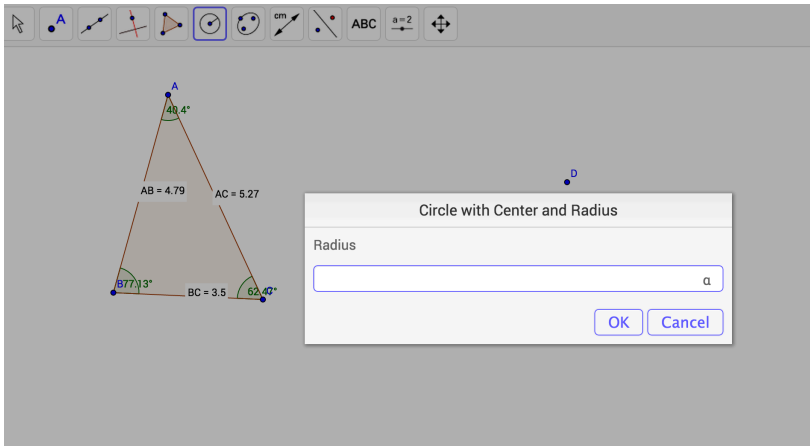




3. Construct point D.

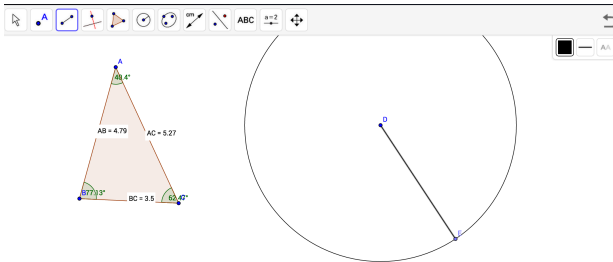


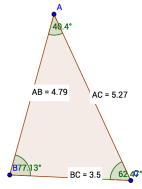
4. Construct a circle with center at D and radius equal to the length of line AB.



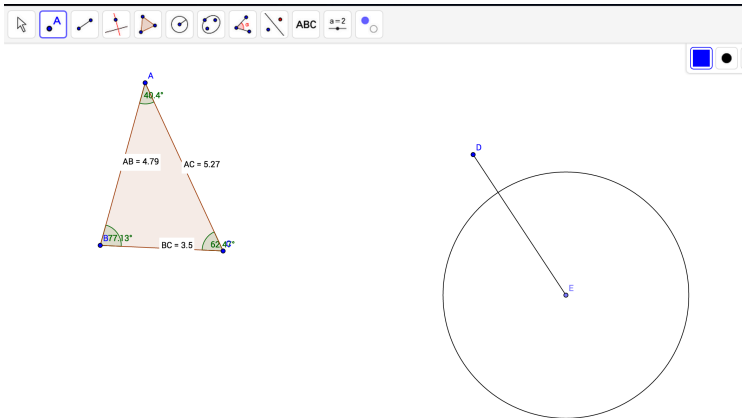
5. Construct a point on the circle and label it E.

6. Construct DE and hide the circle.

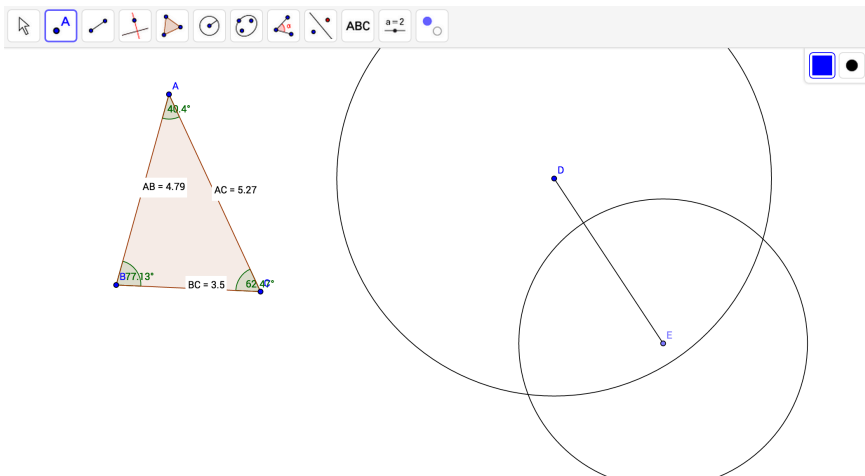




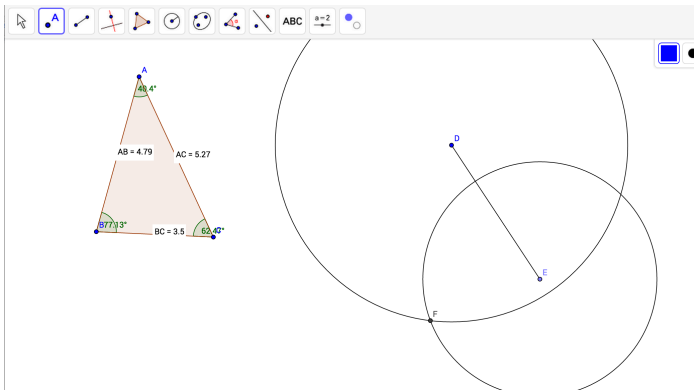
7. Construct a circle D with center at E and radius equal to BC.



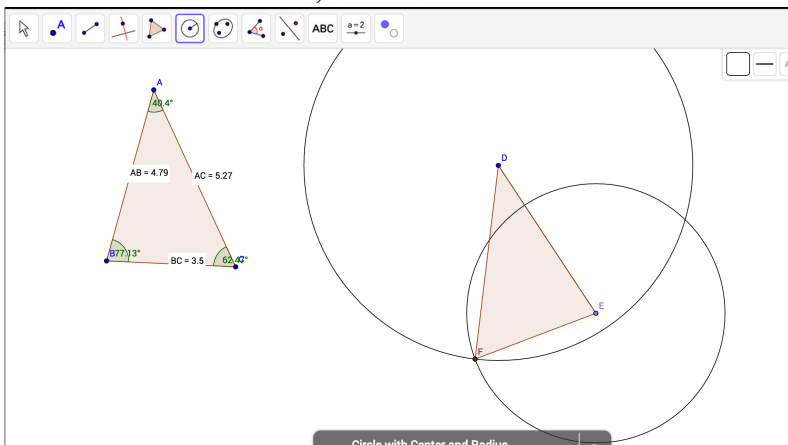
8. Construct a circle e with center at D and radius equal to AC.



9. Construct point F at a point of intersection of circles d and e (there are two possible locations for the point F).



10. Construct  $\triangle DEF$ , hide all circles.



11. Measure all sides and interior angles of  $\triangle DEF$ .

