

(A) Lesson Objectives:

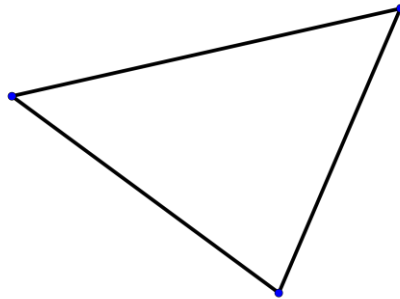
- Introduce terms and conventions used when discussing angles and triangles.
- Investigate the Sine Law through constructions and measurements.
- Solve for unknowns in acute triangles using the Sine Law.
- Apply the Sine Law to word problems.

(B) Terms

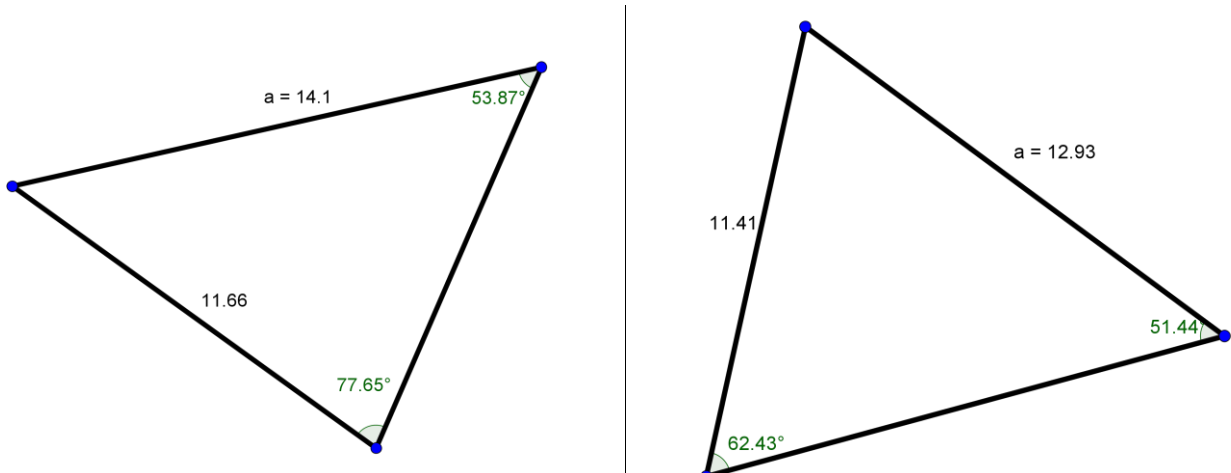
a. Acute Triangles:

c. Altitude:

b. Naming Conventions for Sides and Angles: (see diagram)



(C) Determining an Altitude in An Acute Triangle



(D) Constructions and Ratios → In the space provided below, construct an acute triangle and CAREFULLY measure the length of the sides and the corresponding angles. Record your measurements and use these measurements to determine the required ratios:

Side a =	Side b =	Side c =	$\frac{a}{\sin(A)} =$	$\frac{b}{\sin(B)} =$	$\frac{c}{\sin(C)} =$
Angle A =	Angle B =	Angle C =			

- (a)** What do you notice about your three ratios?
- (b)** What do you notice about the three ratios of other people at your table?
- (c)** Are your ratios the same as any else at your table?
- (d)** See the website <http://www.ualberta.ca/~urban/Projects/Math/Play/triglaws.htm>

(E) Sine Law:

(F) Working with the Sine Law:

http://www.geogebra.org/en/upload/files/tobe/Law_of_Sines_I.html