Accel Precalc   Notes: Law of Sines   Name _____
Unit 8: Extended Trigonometry
Lesson 1: Law of Sine (Part I)

EQ:

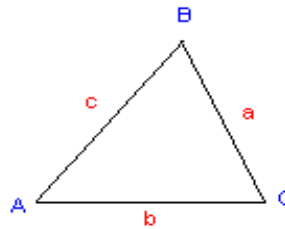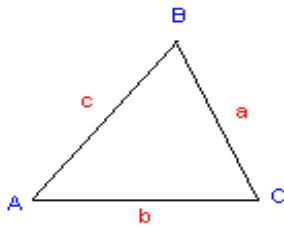Recall: What trig ratios are used to solve right triangles?

<u>Two Methods to Solve "Non-Right Triangles"</u>:

1. _____   2. _____

How can we solve this non-right triangle?   *Let's drop down a perpendicular from ∠B. Call it h.*

                 We have formed _____ _____ triangles.

The left triangle has the following trig relationship: $\sin A =$ _____ *WHY?*

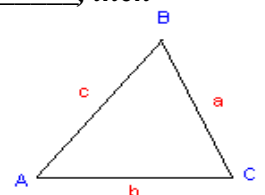   _____ = _____

The triangle on the right has the trig relationship: $\sin C =$ _____ *WHY?*

                   _____ = _____

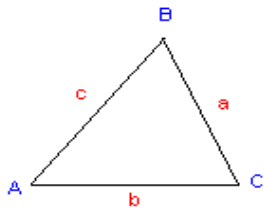*Using the transitive property:* *If* _____ = _____ *and* _____ = _____, *then*
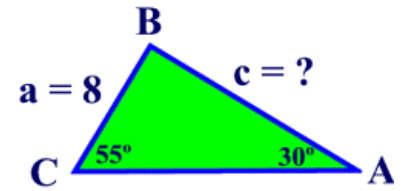

            _____ = _____

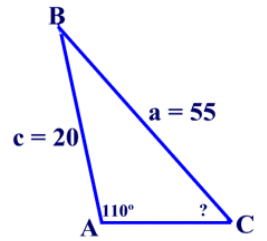*Divide both sides by ac:*   _____ = _____

<u>Law of Sines:</u>

$$\_\_\_\_ = \_\_\_\_ = \_\_\_\_$$

Ex. 1 Given △ABC with side a = 8, ∠A = 30° and ∠C = 55°. Find side c to the nearest tenth.

B
a = 8   c = ?
C   55°   30°   A

Ex 2. Given △ABC with side a = 55, c = 20, and ∠A = 110°. Find the measure of ∠C to the nearest degree.

B
c = 20   a = 55
110°   ?   C
A

Ex. 3 Given △ABC with ∠A = 50°, ∠B = 70° and a = 12. Solve the triangle.

∠A = a =

∠B = b =

∠C = c =

B
c   a
A   b   C
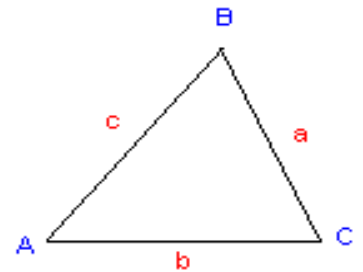
Ex. 4 Solve △ABC if ∠B = 30°, ∠C = 70° and b = 10.

∠A = a =

∠B = b =

∠C = c =

B
c   a
A   b   C
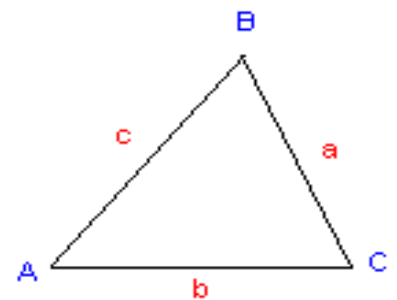
➤ Use Law of Sines when you have a _____ _____

❖ Assignment: Practice Worksheet #1