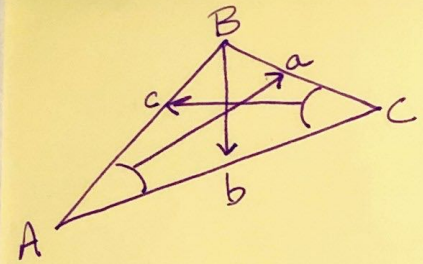
THE LAW OF SINES

USE FOR ASA OR AAS OR SSA (A$$)

included side

non-included side

* Solving a Δ means finding all 3 sides and all 3 angles.



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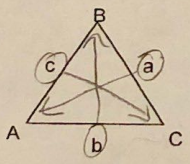


$$\frac{a}{SinA} = \frac{b}{SinB} = \frac{c}{SinC}$$

same as

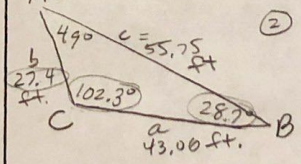
$$\frac{SinA}{a} = \frac{SinB}{b} = \frac{SinC}{c}$$

* Look for matching side and angle.

EX.1: SOLVE THE TRIANGLE WITH C = 102.3°, B = 28.7° AND b = 27.4 ft.

AAS

① $m\angle A = 180 - 102.3 - 28.7$ → 49° = m∠A



② $\frac{b}{SinB} = \frac{c}{SinC}$

$\frac{27.4}{Sin\,28.7} = \frac{c}{Sin\,102.3°}$

$Sin\,102.3 \cdot \frac{27.4}{Sin\,28.7} = c$

c = 55.75 ft.

③ $\frac{a}{SinA} = \frac{b}{SinB}$

$\frac{a}{Sin49} = \frac{27.4}{Sin\,28.7}$

$a = Sin\,49 \cdot \frac{27.4}{Sin\,28.7}$

a = 43.06 ft

* smallest side across from smallest ∠

* largest side across from largest ∠