RIGHT TRIANGLES

SOH CAH TOA

$$\sin\theta = \frac{\text{opp}}{\text{hyp}}$$

$$\cos\theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan\theta = \frac{\text{opp}}{\text{adj}}$$

GIVEN: TWO SIDES

Use Pythagorean Theorem to find the third side.

Use inverse trig functions to find angle measures.

GIVEN: ONE SIDE & ONE ACUTE ANGLE

Use right triangle trig ratios to find missing side lengths.

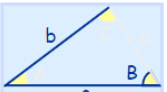
OBLIQUE TRIANGLES

If you know the measure of two angles, subtract from 180° to find the measure of the third angle.

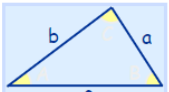
What combination of sides and angles have you been given?

AAS
Two Angles and a Side **not** between

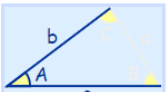
ASA
Two Angles and a Side between



SSA
Two Sides and an Angle **not** between



SSS
Three Sides



SAS
Two Sides and an Angle between

THE "BUDDY SYSTEM"

⇩ ⇩

Law of Sines

AAS OR ASA

One triangle

SSA

Ambiguous Case
1, 2, or NO triangle possible

⇩

Proceed w/caution.

Law of Cosines

SSS

Use Law of Cosines twice to find two angles.

SAS

Use Law of Cosines to find the side opposite the given angle.

Use the Law of Sines to find the angle opposite the shorter side.