



Solution of Triangle

Ambiguous Case

Case 1

When $a < b \sin A$
Outcome: No solution

Case 2

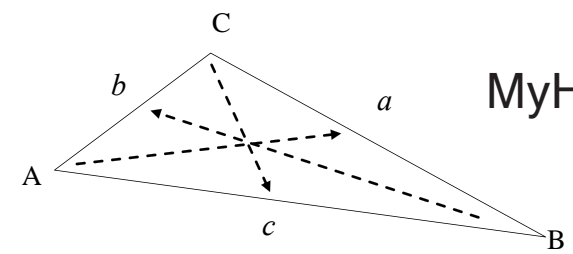
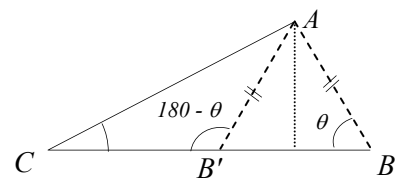
When $a = b \sin A$
Outcome: 1 solution

Case 3

When $a > b \sin A$
Outcome: 2 solution

Case 4

When $a < b \sin A$ and $a > b$
Outcome: 1 solution



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

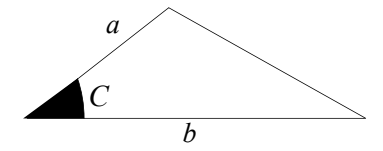
$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Cosine Rule



$$A = \frac{1}{2} ab \sin C$$

Area of Triangle

3 Dimensional Geometry

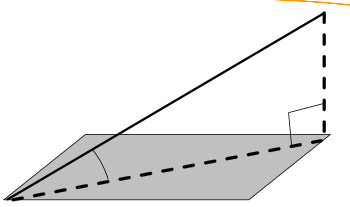
Useful Information:

Phythagoras Theorem: $c = \sqrt{a^2 + b^2}$

Trigo ratio: $\sin \theta = \frac{b}{c}$, $\cos \theta = \frac{a}{c}$, $\tan \theta = \frac{b}{a}$

Area = $\frac{1}{2}$ (base)(height)

Angle Between A Line and A Plane



Angle Between 2 Planes

