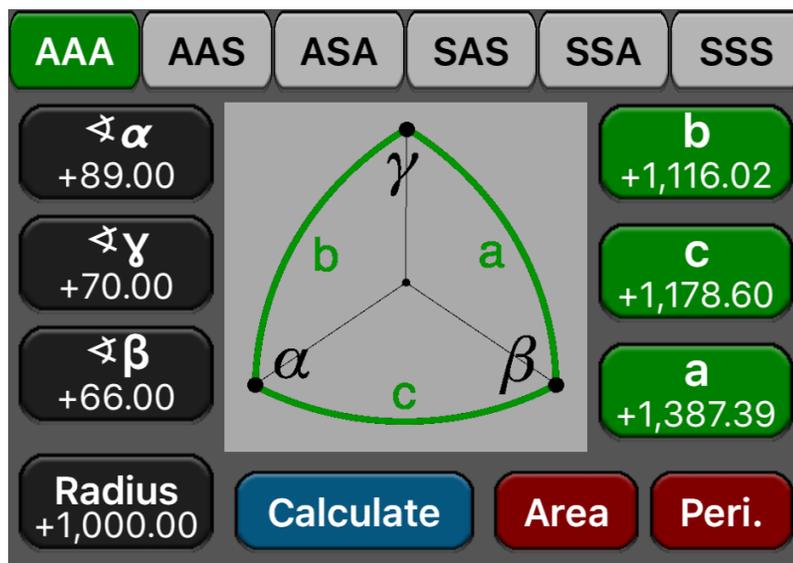


Spherical Triangle Solution Menu

This menu allows you to resolve a spherical triangle in the surface of an sphere of radius '1.0'. To show the menu, touch the "OPT" key and in the "1) Scientific:" section, touch the "Sphere Triangle" button.



	AAA	AAS	ASA	SAS	SSA	SSS
Inputs	[α] [γ] [β]	[α] [a] [β]	[α] [c] [β]	[b] [γ] [a]	[b] [c] [β]	[b] [c] [a]
Calculated Outputs	[b] [c] [a]	[b] [γ] [c]	[b] [γ] [a]	[α] [c] [β]	[α] [γ] [a]	[α] [γ] [β]
[Radius]	Stores the optional sphere radius. By default it is 1.0					
[Area]	Calculates the Area of the triangle with the current value of angles 'a', 'b' and 'c'.					
[Peri.]	Calculates the Perimeter of the triangle with the current value of sides 'a', 'b' and 'c'.					

Example: (AAA)

Given a spherical triangle with interior angles of 89° , 66° and 70° , what is triangle area and perimeter if it is in a sphere of radius 1000 meters?.

Solution : (DEG angle mode)

Keystrokes	Description
[AAA]	Set 'AAA' calculation mode.
type 89 [* α] type 66 [* β] type 70 [* γ]	Store the angle ' α '. Store the angle ' β '. Store the angle ' γ '.
1000 [Radius]	Stores the sphere radius.
[a] [b] [c]	Calculates side 'a'. = 1,387.39 m Calculates side 'b'. = 1,116.02 m Calculates side 'c'. = 1,178.60 m
[Area]	Calculate the Area. = 785,398.16 m ²
[Perim.]	Calculate the Perimeter. = 3,682.02 m

Example: (SSS)

In a triangle ABC, the sides are 6 cm, 10 cm and 14 cm. Show that the triangle is obtuse angled with the obtuse angle equal to 120° .

Solution : (DEG angle mode)

Keystrokes	Description
[SSS]	Set 'SSS' calculation mode.

Keystrokes	Description
type 6 [a]	Store the 'a' side length.
type 10 [b]	Store the 'b' side length.
type 14 [c]	Store the 'c' side length.
[* α]	Calculates angle 'α'. *α = 21.79
[* β]	Calculates angle 'β'. *β = 38.21
[* γ]	Calculates angle 'γ'. *γ = 120.00

Example: (SAS)

Two sides of a triangle are 5 and 8 units and their included angle is 60° . Solve the triangle and, What is the triangle's area and perimeter?

Solution : (DEG angle mode)

Keystrokes	Description
[SAS]	Set 'SSS' calculation mode.
type 5 [a]	Store the 'a' side length.
type 60 [* γ]	Store the 'γ' angle.
type 8 [b]	Store the 'b' side length.
[* α]	Calculates angle 'α'. *α = 38.21
[c]	Calculates side 'c'. c = 7.00
[* β]	Calculates angle 'β'. *β = 81.79
[Area]	Calculate the Area. AREA = 17.32
[Perim.]	Calculate the Perimeter. PERIM = 20.00