

# HOW TO CALCULATE SOLAR ALTITUDE JUST THE FACTS

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## TO FIND SOLAR ALTITUDE

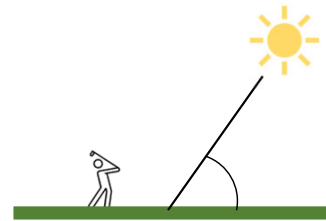
use this formula:

$$SA = 90^\circ - AD$$

where SA = Solar Altitude and AD = Arc Distance.

## SOLAR ALTITUDE

is the angle between the Sun and the Earth's horizon at noon at a particular location.



## DECLINATION OF THE SUN

is the latitude on the Earth's surface where the solar altitude is 90 degrees at noon—in other words, the latitude where the Sun is directly overhead at 12 p.m.



## ARC DISTANCE

is the angle between the latitude of the location you're interested in and the declination of the Sun.

When these two points are in **the same hemisphere**, **subtract their latitudes**.

When these two points are in **opposite hemispheres**, **add their latitudes**.

