



Name _____

Path of the Sun

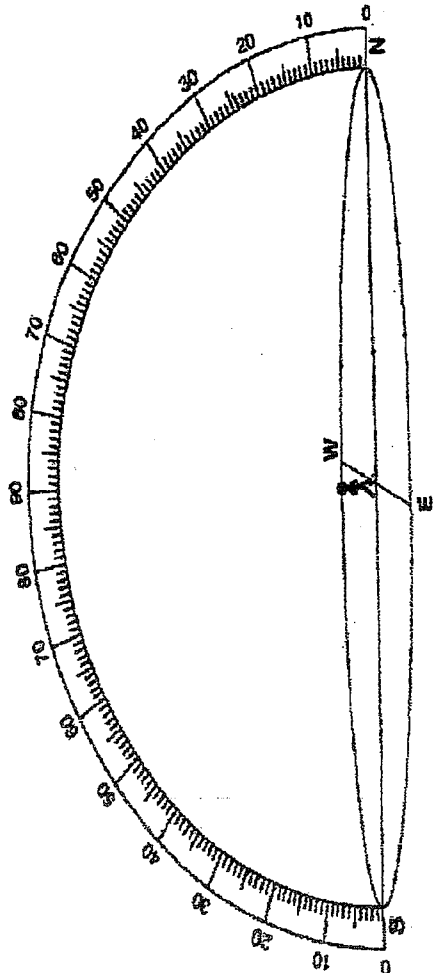


Date _____

41° N
NYS

Position of Sunrise /Sunset

Date	Sunrise	Sunset
Equinox		
12/21		
6/21		



The altitude of the noon sun depends on the _____ & _____
 Each Season the angle of the noon sun changes by _____

Steps to Determine the Altitude of the Noon Sun.

On the Equinox, the Vertical Ray of the sun hits the _____
 so the angle of the sun is _____ at the _____.

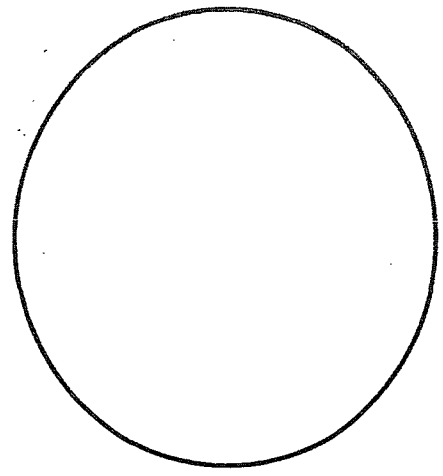
Step 1 Find the latitude of the location and subtract the latitude from 90°.

This is the Angle of the Noon sun for the **equinox**.

Step 2 For the Summer Solstice angle, add 23.5° to the Equinox angle.

Step 3 For the Winter Solstice angle, subtract 23.5° from the equinox angle.

Location of the Vertical Ray



The position of a shadow can be used to measure the position of the Sun.

The direction of a shadow depends on the direction of the sun.

The shadow is always opposite the direction of the sun.

If you know the azimuth of the sun you add 180° to find the shadow direction

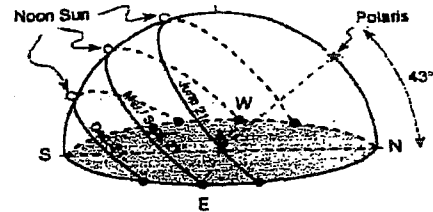
The Length of the shadow depends on the angle of the sun.

When the sun is at a higher angle the shadows are shorter.

When the sun is at a lower angle the shadows are longer.

From Sunrise to Solar noon the shadows get shorter.

From Solar Noon to Sunset the shadows get longer.



Shadow Length changes with the seasons.

During the Summer Solstice, the noon sun is at the highest angle so you have the shortest shadow.

During the Winter Solstice, the noon sun is at the lowest angle so you have the longest shadow.

Noon Sun

In the New York State, the Noon Sun is over the Southern Horizon.

The Noon Shadow always points NORTH when you are in New York State.

