

Midday Sun Angle Observation Worksheet

Date: June 21, 2001
 Time: 12:03 PM

Raw Data
 H (object height) = 250 cm
 L (shadow length) = 53 cm

Description of Object

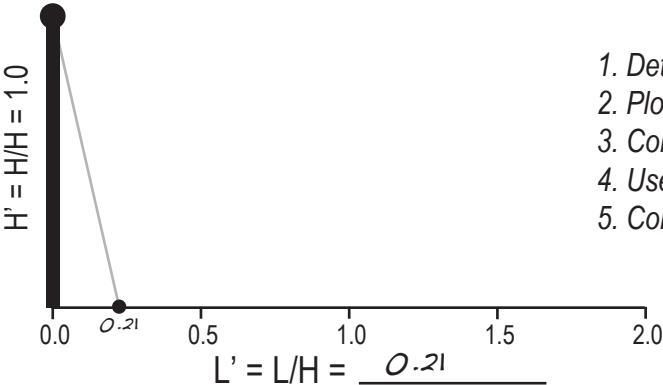
Stop sign facing parking lot on the north side of the Sims Science Building.

Trigonometric Midday Sun Angle Determination

1. Divide object height by shadow length
2. Apply the ArcTan function to H/L.
3. Make sure your answer is in degrees, not radians!
4. Confirm that the angle is between 32 and 78 degrees.

H / L = 4.72
 ArcTan (H/L) = $\tan^{-1}(H/L) = \underline{78}^{\circ}$

Graphical Midday Sun Angle Determination



1. Determine L' by dividing shadow length by object height
2. Plot the value of L' on the x-axis.
3. Connect L' to H'
4. Use a protractor to measure the angle.
5. Confirm that the angle is between 32 and 78 degrees.

Midday Sun Angle = 78⁰

We acknowledge by our signatures that we collected the data on the date and time indicated on the worksheet. We also acknowledge that we have read and understood the instructions for collection of this data, including that falsifying data is academically dishonest and thus subject to the rules for academic dishonesty laid out in the Winthrop University Student Handbook. We understand that submitting falsified data will result in a grade of zero for the entire Solar Observation Project for all students who have signed below.

Name (Print): Davey Jones Signature: Davey Jones Date: 6/23/2001
 Name (Print): Glenda Goodwitch Signature: Glenda Goodwitch Date: 6/22/2001
 Name (Print): _____ Signature: _____ Date: _____
 Name (Print): _____ Signature: _____ Date: _____