

# Midday Sun Angle Observation Worksheet

Date: December 22, 2001  
 Time: 12:01 PM

**Raw Data**  
 H (object height) = 250 cm  
 L (shadow length) = 416 cm

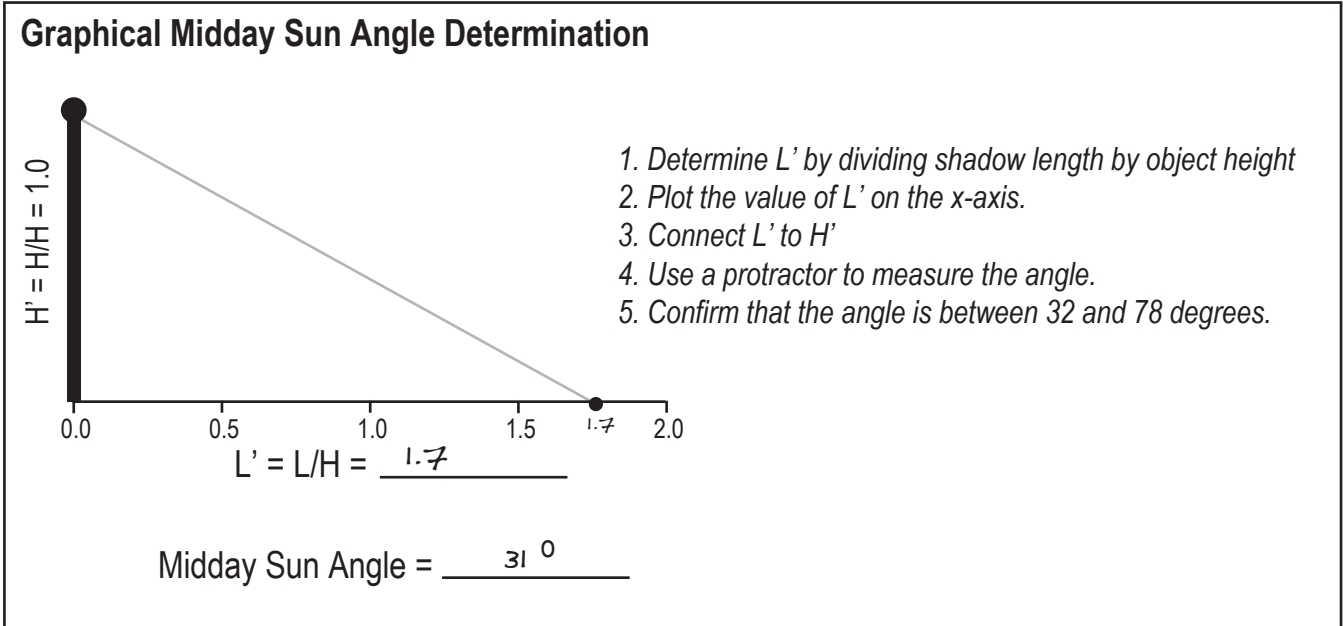
**Description of Object**

*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.

$H / L = \underline{0.60}$   
 $\text{ArcTan}(H/L) = \tan^{-1}(H/L) = \underline{32}^{\circ}$



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: 12/23/2001  
 Name (Print): Glenda Goodwitch Signature: Glenda Goodwitch Date: 12/22/2001  
 Name (Print): \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Name (Print): \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_