

# Land Cover Investigation

## Measure Tree Height on a Slope: Two-Triangle with Feet Higher than Tree Base Technique Data Sheet

School Name: \_\_\_\_\_ Site: \_\_\_\_\_

Measurement Time: \_\_\_\_\_ Year \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Hour (UT) \_\_\_\_\_

Recorded By: \_\_\_\_\_

### Clinometer Data

Dominant Species	1 <sup>st</sup> Clinometer Reading (°)	TAN of 1 <sup>st</sup> Clinometer Reading	2 <sup>nd</sup> Clinometer Reading (°)	TAN of 2 <sup>nd</sup> Clinometer Reading	3 <sup>rd</sup> Clinometer Reading (°)	COS of 3 <sup>rd</sup> Clinometer Reading	Distance to the Tree (m)	Baseline Calculation (m)	Tree Height (m)	Average Tree Height (m)
Specimen 1.										
Specimen 2.										
Specimen 3.										
Specimen 4.										
Specimen 5.										

$$\text{Baseline} = (\text{Distance to the Tree}) \times (\text{COS of } 3^{\text{rd}} \text{ Clinometer Reading})$$

$$\text{Tree Height} = [(\text{TAN of } 1^{\text{st}} \text{ Clinometer Reading}) \times (\text{Baseline})] + [(\text{TAN of } 2^{\text{nd}} \text{ Clinometer Reading}) \times (\text{Baseline})]$$

**Note:** Measure each tree three times and average the three height values. If all three values are within 1 meter of the average, report the values. If not, repeat the measurements until they are within 1 meter of their average, and then report these values.

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## Measure Tree Height on a Slope: Two-Triangle with Feet Higher than Tree Base Technique Data Sheet – Page 2

School Name: \_\_\_\_\_ Site: \_\_\_\_\_

Measurement Time: \_\_\_\_\_ Year \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Hour (UT) \_\_\_\_\_

Recorded By: \_\_\_\_\_

### Clinometer Data

Co-Dominant Species	1 <sup>st</sup> Clinometer Reading (°)	TAN of 1 <sup>st</sup> Clinometer Reading	2 <sup>nd</sup> Clinometer Reading (°)	TAN of 2 <sup>nd</sup> Clinometer Reading	3 <sup>rd</sup> Clinometer Reading (°)	COS of 3 <sup>rd</sup> Clinometer Reading	Distance to the Tree (m)	Baseline Calculation (m)	Tree Height (m)	Average Tree Height (m)
Specimen 1.										
Specimen 2.										
Specimen 3.										
Specimen 4.										
Specimen 5.										

$$\text{Baseline} = (\text{Distance to the Tree}) \times (\text{COS of 3}^{\text{rd}} \text{ Clinometer Reading})$$

$$\text{Tree Height} = [(\text{TAN of 1}^{\text{st}} \text{ Clinometer Reading}) \times (\text{Baseline})] + [(\text{TAN of 2}^{\text{nd}} \text{ Clinometer Reading}) \times (\text{Baseline})]$$

**Note:** Measure each tree three times and average the three height values. If all three values are within 1 meter of the average, report the values. If not, repeat the measurements until they are within 1 meter of their average, and then report these values.