

How to use a clinometer

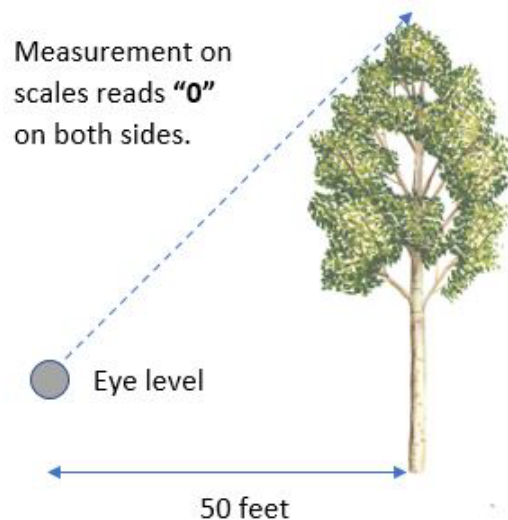
What they're used for:

We use clinometers to quickly estimate the height of a tree.

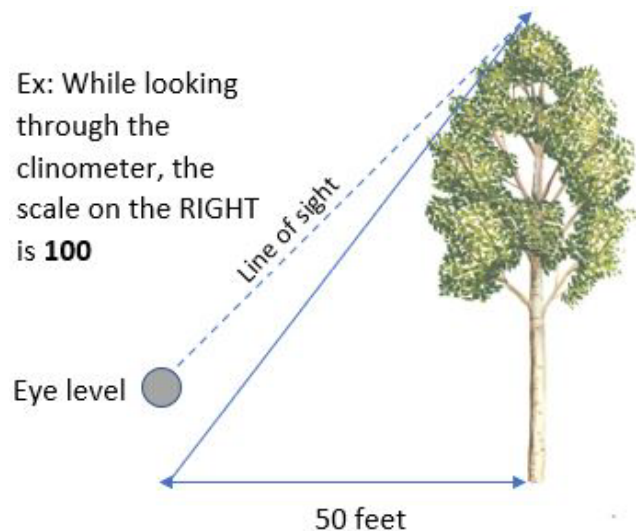
How to measure tree height with a clinometer:

1. Choose a tree on level ground to measure.
2. Hold the clinometer with the red dot pointing away from you. The red dot marks your line of sight between your eye and the object you are measuring.
3. Look through the glass meter. The glass meter contains a dial with two rows of measurements, a left-hand scale and a right-hand scale. Keep BOTH EYES OPEN.
4. Walk away from tree 50 feet. (Use a measuring tape.)
5. Face tree. Hold the clinometer near your eye with red dot pointing away from you. (You may want to put a finger on the red dot to remind you that this is the line of sight you are following to the top and bottom of tree.)
6. Look through the level clinometer until the scale reads "0" on both sides.

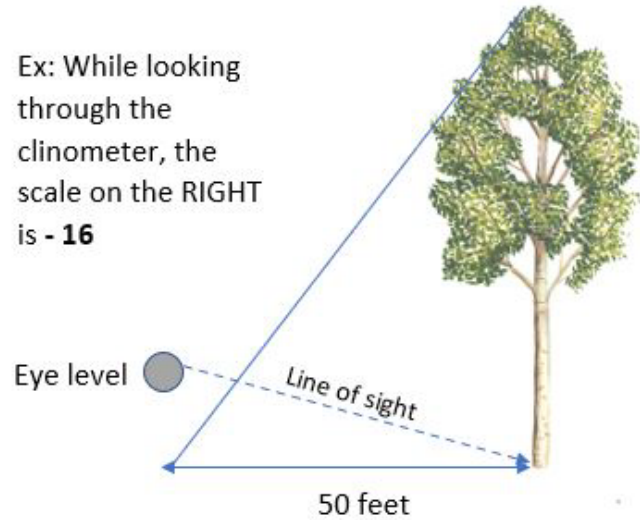
You will not use the left-hand scale after this step.



7. Point the clinometer at the top of the tree.
Record the number from the right-hand scale that corresponds with your line of sight at the top of the tree.



8. Without moving your head, tilt the clinometer down to the base of the tree. Try to keep the glass eyepiece steady at the same point from where you took the top reading.
9. Record the number from the right-hand scale that corresponds with your line of sight at the bottom of the tree.



10. Add the numbers.
11. Divide the product by 2 to estimate height of the tree.
Why? Because you took the measurements at 50 feet away.

Example:

top measurement	100
bottom measurement	<u>+16</u> (ignore the negative sign)
	116 feet

Divide 116 feet by 2.

The tree is 58 feet tall.

Note

You can also measure tree height from 100 feet away. This produces more accurate readings and you will not need to divide numbers by 2.

When to use the left-hand scale

Use the left-hand scale if you want to take measurements at 33 feet or 66 feet away from the tree.

In surveyor's terms, 66 feet = 1 chain

Clinometers can also be used to determine grade or slope in an area.