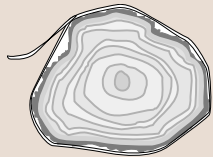# Sizing Up a Minnesota Tree

Trees submitted as nominees for the Big Tree Registry must be measured with circumference in inches, and height and crown spread to the nearest foot. Follow these guidelines for measuring:

Around the Middle

Measure, to the nearest inch, the distance around the tree at a point 4½ feet up from the ground to get the circumference. A flexible tape measure is a good tool to use.
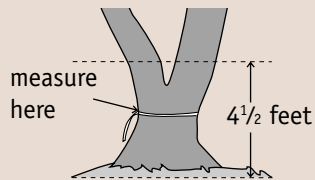
Here's how to find the circumference of hard-to-measure trees:
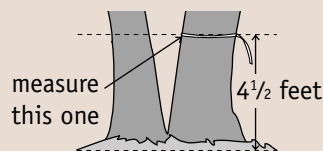
1. When a tree has deep convolutions or indentations, measure without pressing into the indentations.
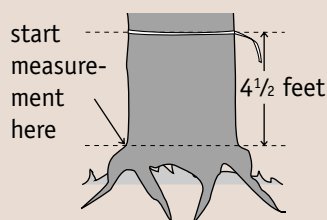
2. If a single tree has a double stem that forks below 4½ feet above the ground, measure at the narrowest place below the fork.
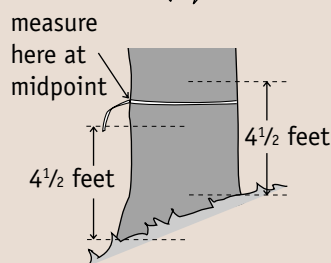
If the tree forks at ground level, measure the largest stem at 4½ feet.

measure here — 4½ feet

measure this one — 4½ feet

3. When the base of a tree is "heaved" (tree roots exposed usually due to the effects of erosion, along with tree movement and growth patterns), the measuring point begins where the root mass ends and the tree trunk begins.

start measurement here — 4½ feet

4. If a tree is growing on a slope, measure 4½ feet above the midpoint of the different ground levels.

measure here at midpoint — 4½ feet — 4½ feet

How High

Height is the hardest measurement to obtain. The most reliable method uses a hand level or hypsometer. If these instruments are unavailable, use a ruler.
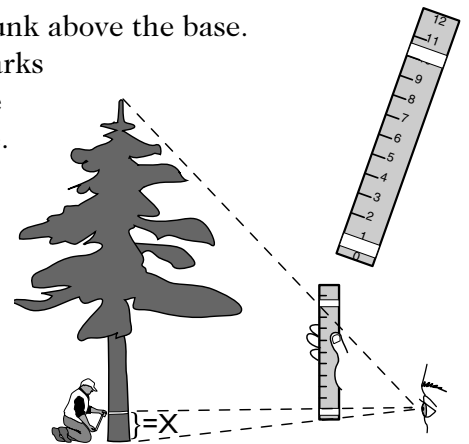
Take a 12-inch ruler and mark the 1-inch and 10-inch lines on the ruler with tape. Work in pairs. One person stands at the base of the tree. The other holds the ruler up in front of his or her own eyes at arm length and moves back until he or she can see the whole tree from top to bottom between the 0-inch and the 10-inch mark on the ruler. He or she then moves the ruler until the base of the tree is exactly at 0 inches and the top of the tree is sighted exactly at 10 inches. Then he or she sights out from the 1-inch mark to a point on the trunk above the base. The partner marks this spot on the trunk with tape.

Measure the distance from the base of the tree to the 1-inch mark (X). Multiply by 10 to get an approximate idea of the height of the tree.

Crown Size

Set a stake directly under the outside edge of the crown **farthest** from the trunk (A) and another directly opposite it at the outer edge of the crown on an imaginary line passing through the center of the tree (B). Next, set stakes marking the **shortest** diameter of the crown passing through the center of the tree (C and D). Measure both distances to the nearest foot with a tape measure. Add the two measurements together and divide the sum by two to find the average crown spread.