



## **Christmas Tree Worksheet**

## Objective(s):

Students will be able to identify and compute missing angles while finding missing variables for angles in a triangle.

Indiana Academic Standards:

Mathematics: Grade 7

Geometry and Measurement

7.GM.1 Explore triangles with given conditions from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

7.GM.2 Identify and describe similarity relationships of polygons including the angle-angle criterion for similar triangles, and solve problems involving similarity.

National Agricultural Literacy Outcomes
Plants and Animals for Food, Fiber & Energy Outcomes
T2.6-8.c. Identify farm practices for plant protection and the harvest of safe products for consumers

## Materials:

- · Writing utensil
- · Student worksheet

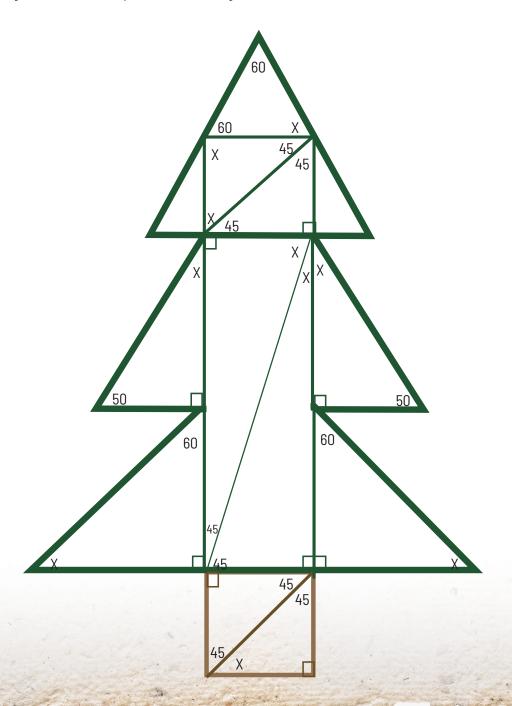


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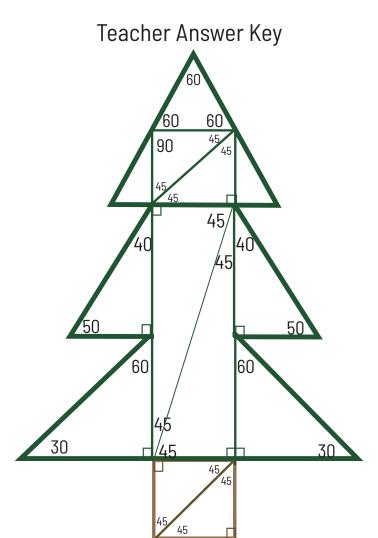
**Background information:** Christmas trees traditionally hold the centerpiece of the Christmas season. The signature shape of the Christmas tree is the triangle. Many trees may resemble different angles or triangles to accomplish it's very own look. This is dependent on the genetics of the tree and the shearing practices of the grower.

**Directions:** Solve for the missing angles. Like everyday life, Christmas trees are full of angles! Use your geometry knowledge to solve for the missing angles on this tree. Make sure that you know the rules of angles within a triangle, such as the angles in a triangle have to add up to 180 degrees. Use problem-solving skills to solve for the missing variables that represent these angles.









## Supplemental Information

- · Christmas trees are a year-round business.
- It can take as little as four years, or as many as 15 years, to grow a Christmas tree to a height of 6-7 feet. Seven years is the average growing time.
- Once the tree reaches the desired size, the farmer begins "shearing" the tree, which helps train the growth and the shape of the branches.
- There are about 15,000 Christmas tree farms across the U.S. Indiana's largest Christmas tree farm, Dull's Tree Farm, is located in Thorntown, Indiana.
- There are approximately 350 million Christmas Trees currently growing on tree farms across America.
- Americans use nearly 35 million Christmas trees annually.
- Christmas tree farmers contribute almost \$1.5 billion to the economy.
- Careers: Landscaper, horticulture technician, Christmas tree farm manager and conservation technician