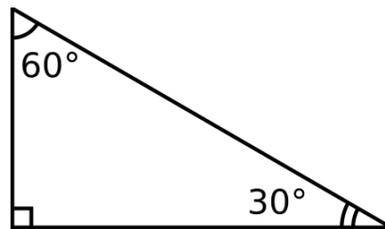
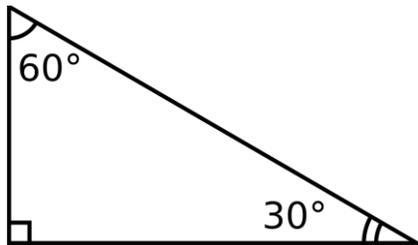
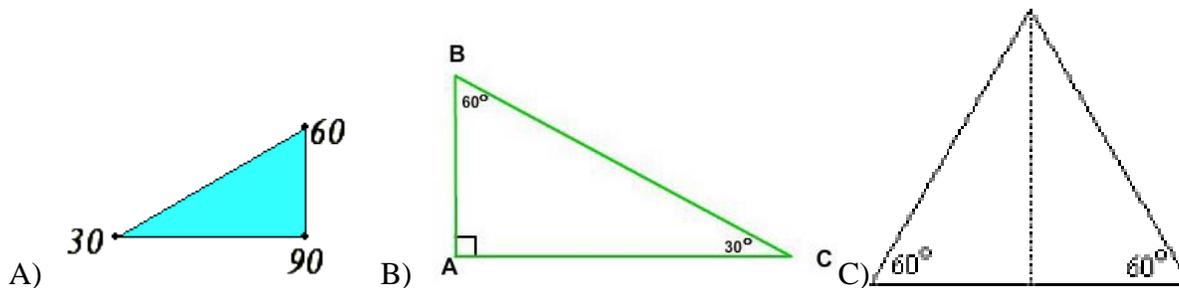


Objective: To find missing length of sides in special right triangles

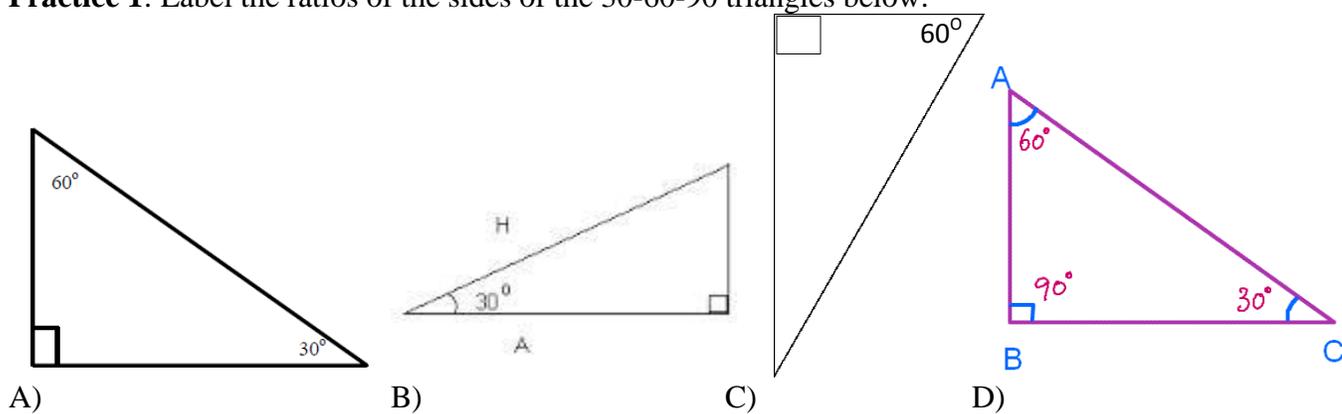
- Recall that 45-45-90 triangles always have a ratio of $1-1-\sqrt{2}$, or $x-x-x\sqrt{2}$.
- Today, we are going to be working with the other kind of special right triangles that work similarly to 45-45-90 triangles.
- The angle measures of the other type of special right triangles are _____, and the ratios of the sides are _____, which, if we add an “x” to those ratios, the ratios become _____.
- In order to determine where the ratios go, we have to match small angle with small ratio, middle angle with middle ratio, and large angle with large ratio. In other words, the _____ is across from _____, _____ is across from _____, and _____ is across from _____.



Example 1: Label the ratios of the sides of the 30-60-90 triangles below.



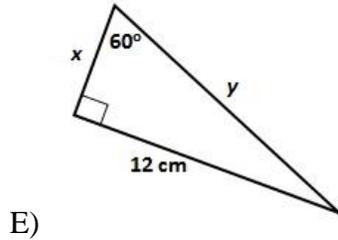
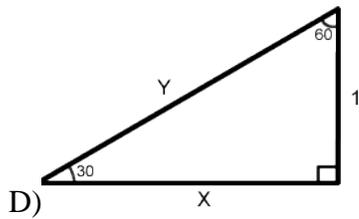
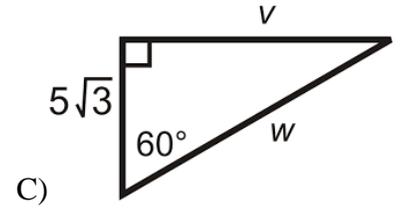
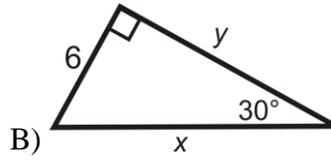
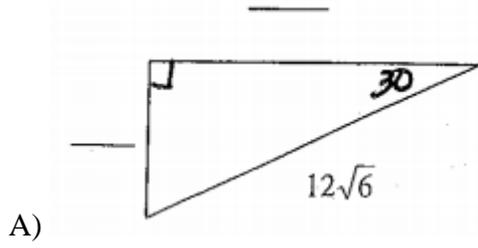
Practice 1: Label the ratios of the sides of the 30-60-90 triangles below.



When given the measure of one of the sides, we can use those ratios to find the other two lengths.

- 1) Label the ratios of the sides.
- 2) Set the measure given equal to the ratio that matches that side.
- 3) Solve for x .
- 4) Plug the value of x into the other two sides.

Example 2: Given the side measure of the 30-60-90 triangles below, find the length of the other two sides.



Practice 2: Given the side measure of the 30-60-90 triangles below, find the length of the other two sides.

