Special Right Triangles

May 28th, 2020

Deriving Special Right Triangles

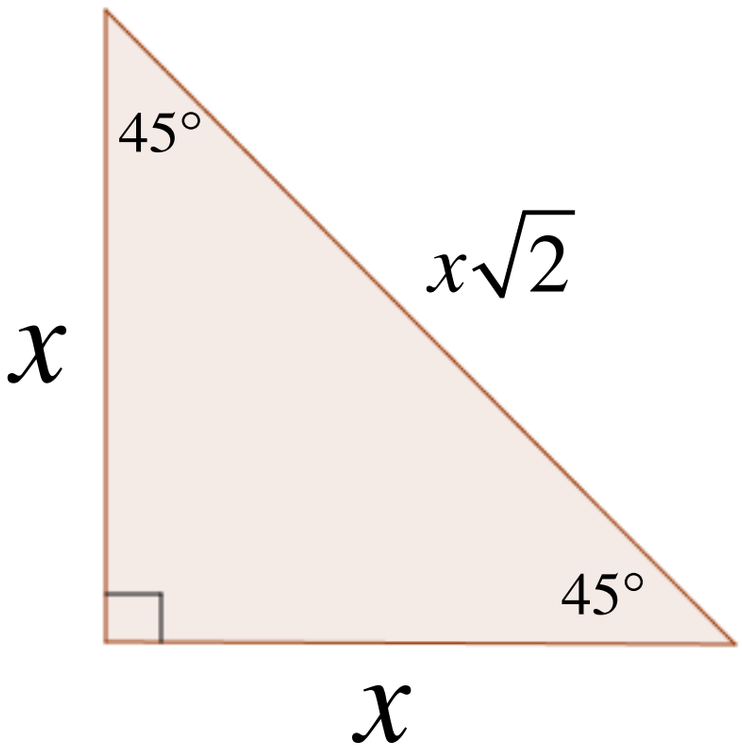
Recall that $\sin 30° = \frac{1}{2}$. Use that ratio with a general $30° - 60° - 90°$ triangle that has shortest side ‘x’ to find the a formula for the length of each of the other two sides.

Deriving Special Right Triangles

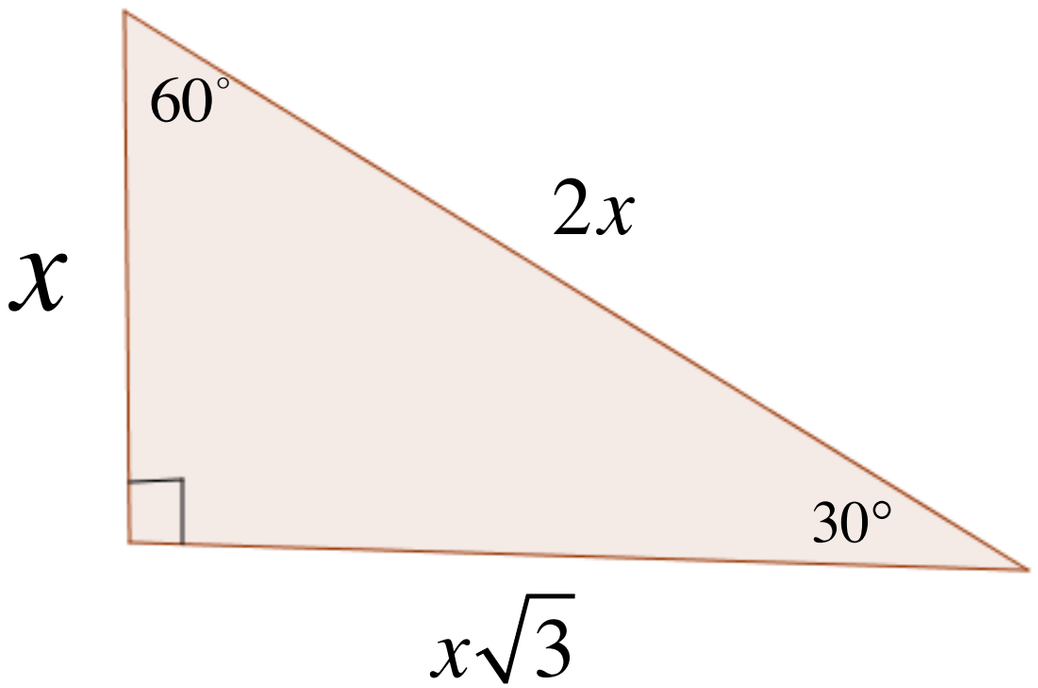
Given a general isosceles triangle with leg of length ‘x’, derive a formula for the length of the other two sides.

*Special Right Triangles are triangles that have desirable trigonometric ratios based on their angle measures.

$45° - 45° - 90°$

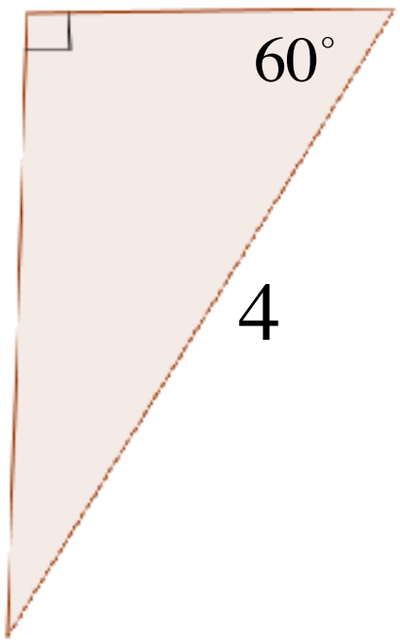


$30° - 60° - 90°$

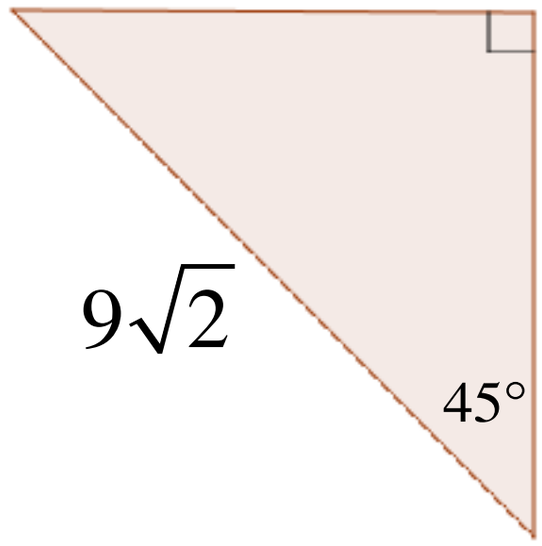


Ex 1: Solve each of the right triangles below using what you have learned about special right triangles.

A)



B)



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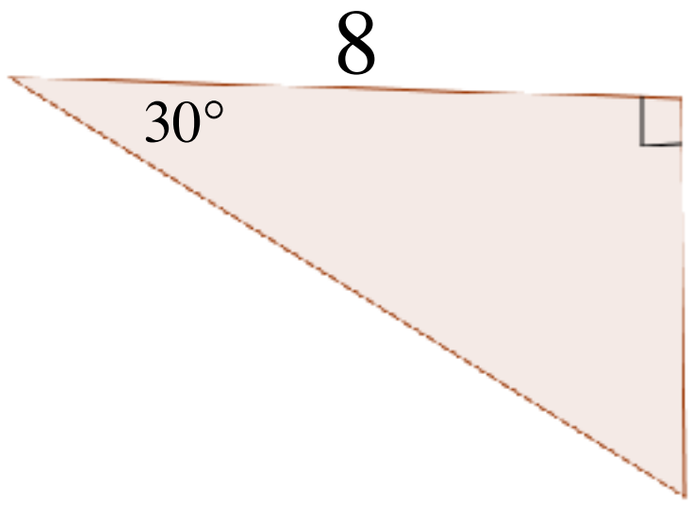
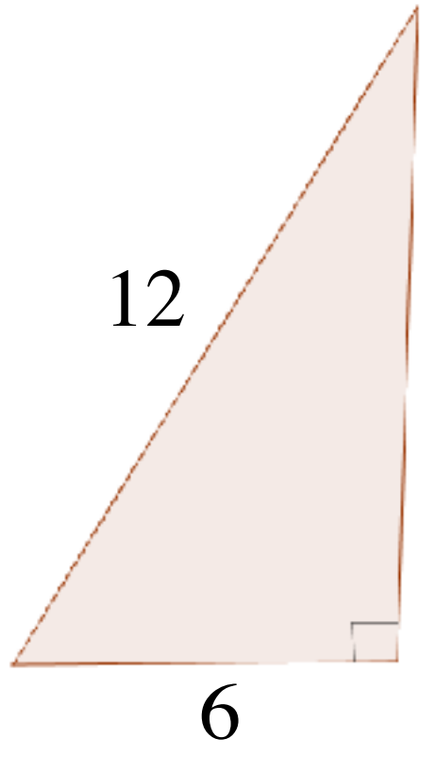


D)



Ex. 2: A yield sign on the corner of your street is the shape of an equilateral triangle of side length 6 inches. Find its altitude.