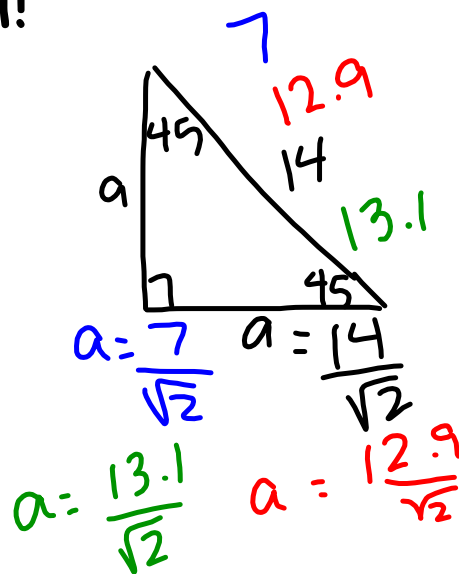
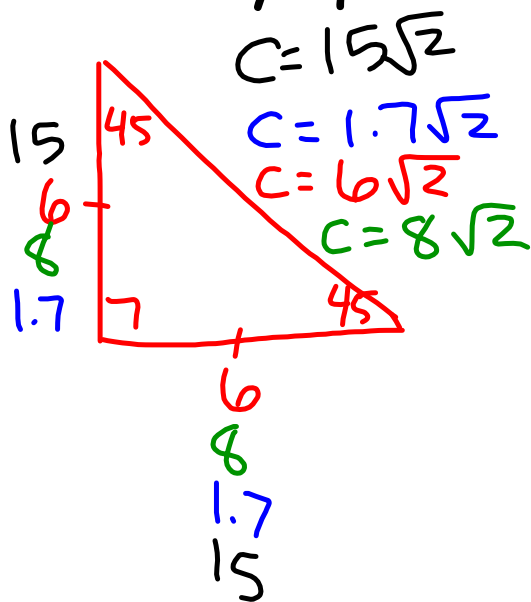
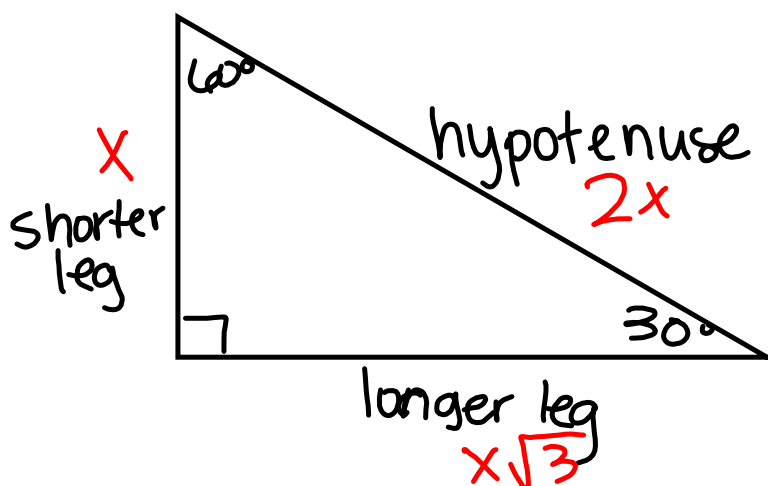


# Questions on 45°-45°-90° triangles?

We will be taking our content

mastery quiz soon!





$$x \cdot y = xy$$

$$x \cdot x = x^2$$

$$2x \cdot 3y = 6xy$$

$$\sqrt{2} \cdot \sqrt{3} = \sqrt{2 \cdot 3} = \sqrt{6}$$

$$2\sqrt{2} \cdot 4\sqrt{3} = 8\sqrt{6}$$

$$x + y$$

$$x + 2x^3$$

$$\sqrt{2} + \sqrt{3}$$

$$1x + 3x = 4x$$

$$\sqrt{2} + 3\sqrt{2} = 4\sqrt{2}$$

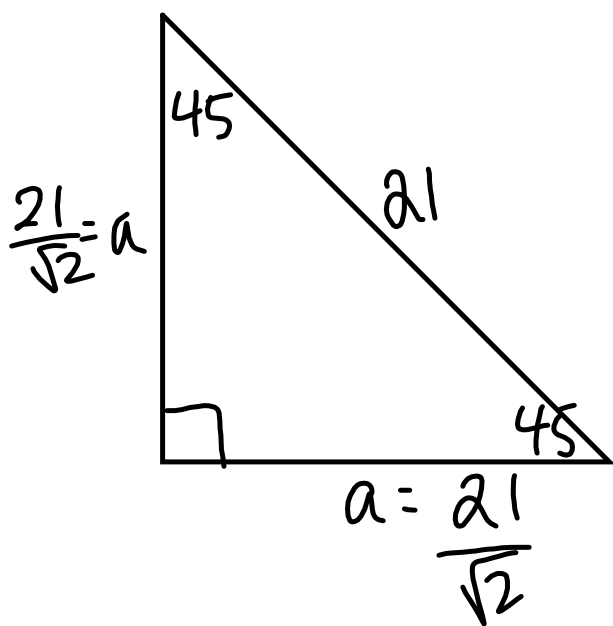
$$3\sqrt{3} + 5\sqrt{3} = 8\sqrt{3}$$

$$\frac{\sqrt{16}}{\sqrt{4}} = \sqrt{\frac{16}{4}} = \sqrt{4} = 2$$

$$\sqrt{\frac{25}{49}} = \frac{\sqrt{25}}{\sqrt{49}} = \frac{5}{7}$$

$$\frac{6\sqrt{3}}{2\sqrt{3}} = \frac{6}{2} \cdot \frac{\sqrt{3}}{\sqrt{3}} = 3 \cdot 1 = 3$$

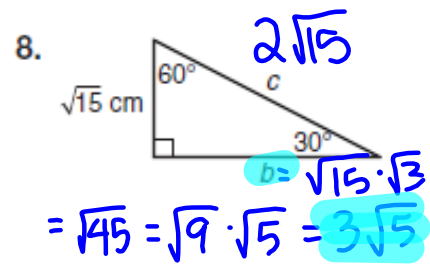
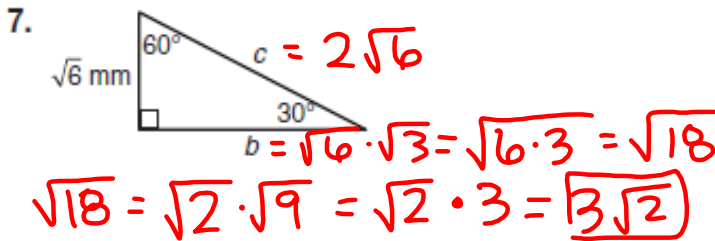
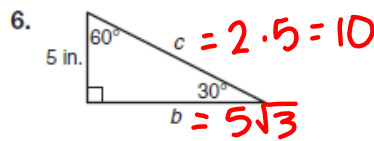
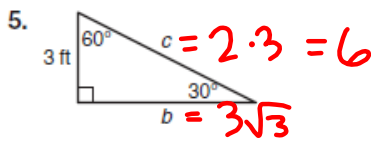
$$\frac{6\sqrt{3}}{\sqrt{2}} = 6 \cdot \frac{\sqrt{3}}{\sqrt{2}} = 6\sqrt{1.5}$$



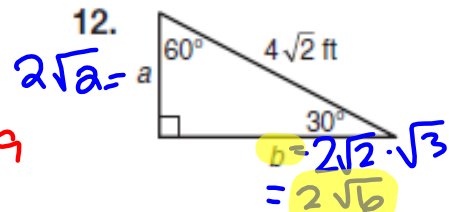
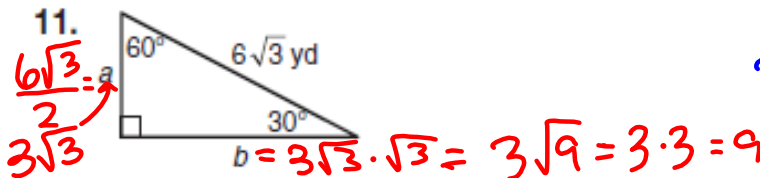
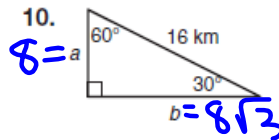
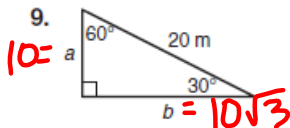
$$21 = a\sqrt{2}$$

NOT IN YOUR BOOK

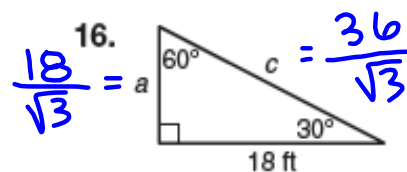
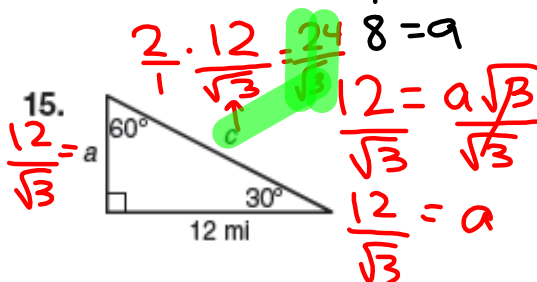
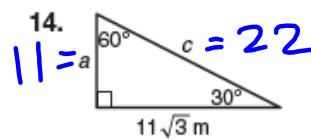
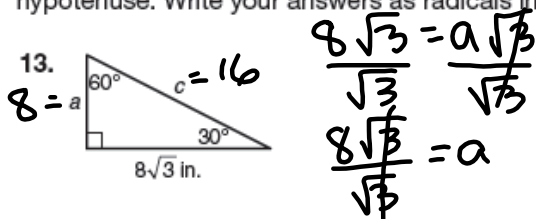
Given the length of the short leg of a 30°-60°-90° triangle, determine the lengths of the long leg and the hypotenuse. Write your answers as radicals in simplest form.



Given the length of the hypotenuse of a 30°-60°-90° triangle, determine the lengths of the two legs. Write your answers as radicals in simplest form.

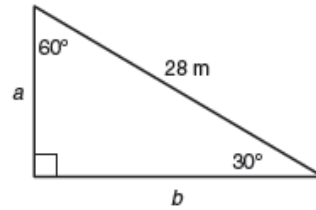


Given the length of the long side of a 30°-60°-90° triangle, determine the lengths of the short leg and the hypotenuse. Write your answers as radicals in simplest form.

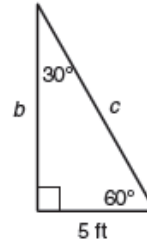


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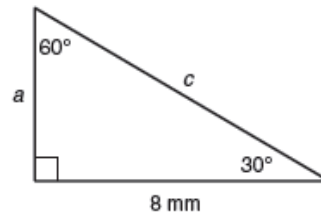
- The length of the hypotenuse in the  $30^\circ-60^\circ-90^\circ$  triangle shown is 28 meters. Calculate the lengths of sides  $a$  and  $b$ .



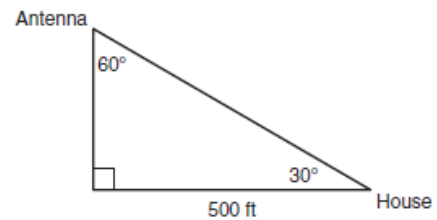
- The length of the side opposite the 30-degree angle is 5 feet. Calculate the lengths of sides  $b$  and  $c$ .



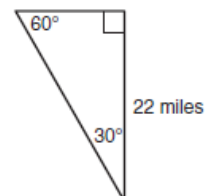
- The length of the side opposite the 60-degree angle is 8 millimeters. Calculate the lengths of sides  $a$  and  $c$ .



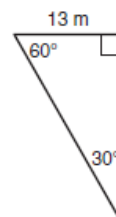
- A broadcast antenna is situated on top of a tower. The signal travels from the antenna to your house so you can watch TV. The angle of elevation from your house to the tower measures 30 degrees, and the distance from your house to the tower is 500 feet. Calculate the height of the tower and the distance the signal travels.



- The length of the longer leg in the  $30^\circ-60^\circ-90^\circ$  triangle shown is 22 miles. Calculate the length of the hypotenuse.



- The length of the shorter leg in the  $30^\circ-60^\circ-90^\circ$  triangle shown is 13 meters. Calculate the length of the hypotenuse.



# Homework

## Special Right Triangles WKS

~~1~~, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, ...

$$\textcircled{4} \quad \sqrt{252} = \sqrt{9} \cdot \sqrt{28} = 3 \cdot \sqrt{28} = 3 \cdot \sqrt{4} \cdot \sqrt{7} \\ = 3 \cdot 2 \cdot \sqrt{7} = \boxed{6\sqrt{7}}$$

