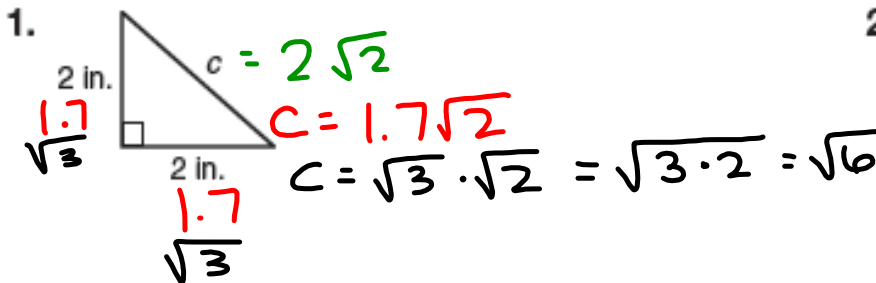


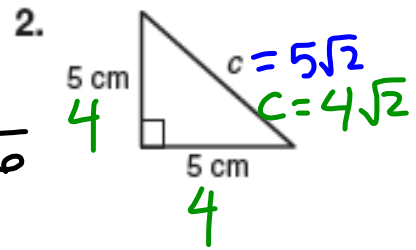
Questions on $45^\circ-45^\circ-90^\circ$ triangles?

We will be taking our content
mastery quiz soon!

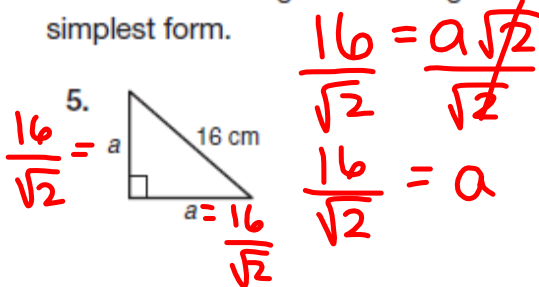
REVIEW

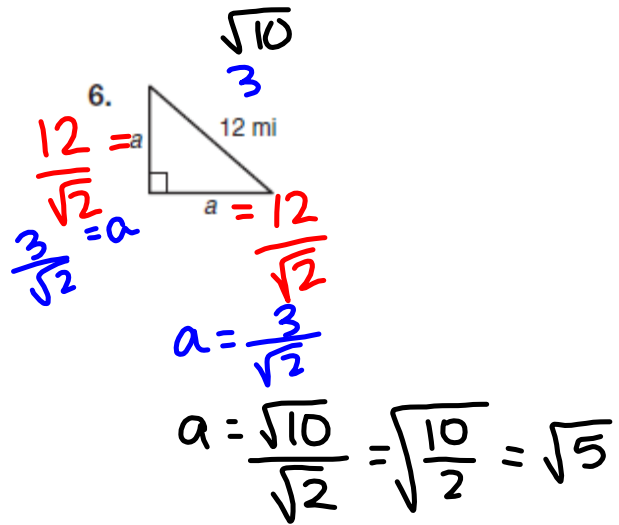
Determine the length of the hypotenuse of each 45°-45°-90° triangle. Write your answer as a radical in simplest form.

1. 

2. 

Determine the lengths of the legs of each 45°-45°-90° triangle. Write your answer as a radical in simplest form.

5. 

6. 

WKS

1st # 10, 12, 13, 15
 2nd # 7, 8, 9, 11, 14

Find the missing side lengths. Leave your answers as radicals in si

7)
 $u = 3\sqrt{3} \cdot \sqrt{2}$
 $= 3\sqrt{3 \cdot 2}$
 $= 3\sqrt{6}$
 $v = 3\sqrt{3}$

8)
 $m = \frac{6\sqrt{2}}{\sqrt{2}} = 6 \cdot \sqrt{1} = 6$

9)
 $x = \frac{5\sqrt{2}}{2} \cdot \frac{\sqrt{2}}{1} = \frac{5\sqrt{4}}{2} = \frac{5 \cdot 2}{2} = \frac{10}{2} = 5$

10)
 $x = \frac{4}{\sqrt{2}}$
 $y = \frac{4}{\sqrt{2}}$

11)
 $m = 2\sqrt{6} \cdot \sqrt{2} = 2\sqrt{12}$
 Simplify $2\sqrt{12}$
 $2 \cdot \sqrt{4} \cdot \sqrt{3} = 2 \cdot 2 \cdot \sqrt{3} = 4\sqrt{3}$

12)
 $4\sqrt{2} = x$
 $y = 4$

* When given hypotenuse, divide by $\sqrt{2}$ to find side lengths
 * When given side length, multiply by $\sqrt{2}$ to find hypotenuse.

11, 13, 15

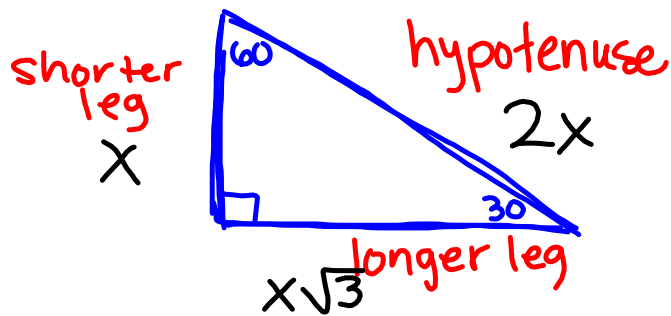
Perfect Squares:

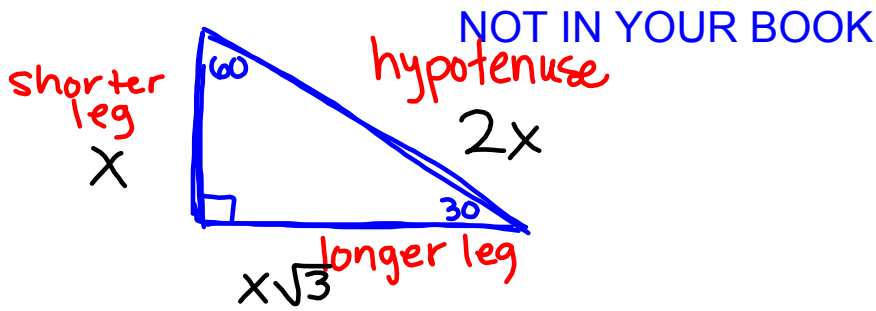
4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, ...

PG.246 IN YOUR BOOK

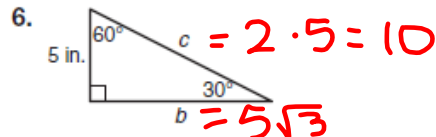
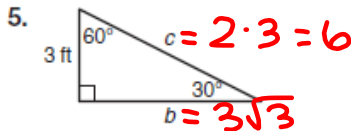
The $30^\circ-60^\circ-90^\circ$ Triangle Theorem states: "the length of the hypotenuse in a $30^\circ-60^\circ-90^\circ$ triangle is two times the length of the shorter leg, and the length of the longer leg is $\sqrt{3}$ times the length of the shorter leg."

8. Use the Pythagorean Theorem to demonstrate the $30^\circ-60^\circ-90^\circ$ Triangle Theorem.
Let x represent the length of the shortest leg.

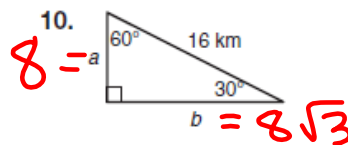
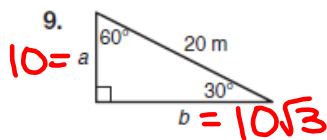




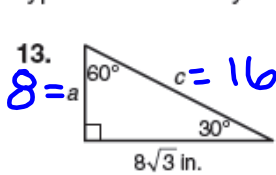
Given the length of the short leg of a 30°–60°–90° triangle, determine the lengths of the long leg and the hypotenuse. Write your answers as radicals in simplest form.



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.

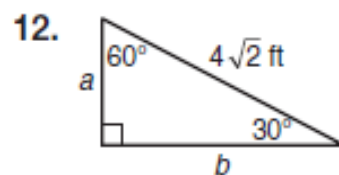
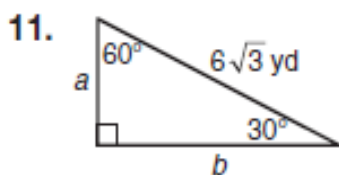
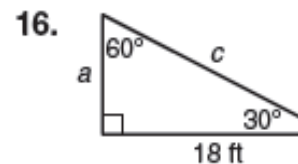
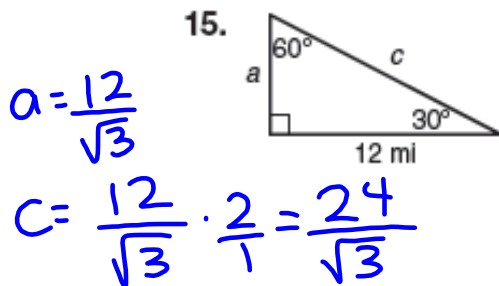
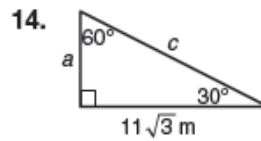


Given the length of the long side of a 30°–60°–90° triangle, determine the lengths of the short leg and the hypotenuse. Write your answers as radicals in simplest form.



$$\frac{8\sqrt{3}}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$$

$$8 = x$$



Homework

Special Right Triangles WKS