Special Right Triangles (7.4): continued from ALEKS lesson

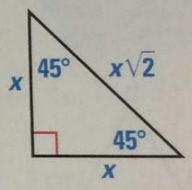
THEOREM *For Your Notebook*

THEOREM 7.8 45°-45°-90° Triangle Theorem

In a 45°-45°-90° triangle, the hypotenuse is $\sqrt{2}$ times as long as each leg.

hypotenuse = leg • $\sqrt{2}$

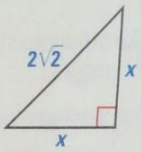
Proof: Ex. 30, p. 463



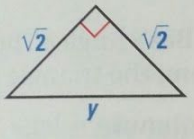
GUIDED PRACTICE for Examples 1, 2, and 3

Find the value of the variable.

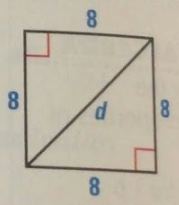
1.



2.



3.



4. Find the leg length of a 45°-45°-90° triangle with a hypotenuse length of 6.

THEOREM

For Your Notebook

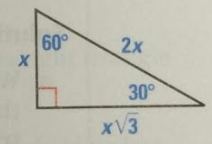
THEOREM 7.9 30°-60°-90° Triangle Theorem

In a 30°-60°-90° triangle, the hypotenuse is twice as long as the shorter leg, and the longer leg is $\sqrt{3}$ times as long as the shorter leg.

hypotenuse = 2 • shorter leg

longer leg = shorter leg • $\sqrt{3}$

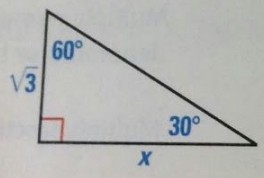
Proof: Ex. 32, p. 463



GUIDED PRACTICE for Examples 4, 5, and 6

Find the value of the variable.

5.



6.