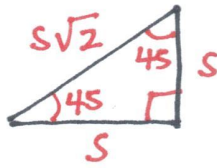


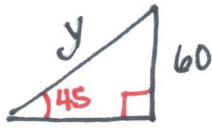
# Special Right Triangles (Section 11-2)

\* "45-45-90" Triangle:  
"1-1- $\sqrt{2}$ "



The hypotenuse =  $\sqrt{2} \cdot \text{leg}$

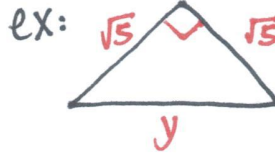
#1  
ex:



$$\text{hyp} = \text{side} \cdot \sqrt{2}$$

$$y = 60 \cdot \sqrt{2}$$

#2

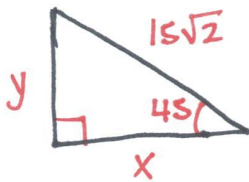


$$\text{hyp} = \text{leg} \cdot \sqrt{2}$$

$$y = \sqrt{5} \cdot \sqrt{2}$$

$$y = \sqrt{10}$$

#3  
ex:



$$y = x$$

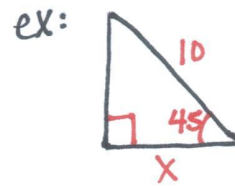
$$\text{hyp} = \text{side} \cdot \sqrt{2}$$

$$15\sqrt{2} = x\sqrt{2}$$

$$x = 15$$

$$y = 15$$

#4

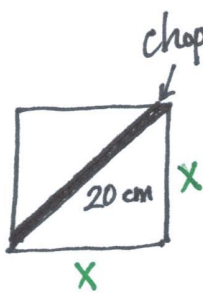


$$\text{hyp} = \text{side} \cdot \sqrt{2}$$

$$10 = \frac{x \cdot \sqrt{2}}{\sqrt{2}}$$

$$x = 10$$

#5  
ex:

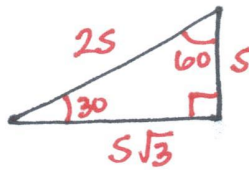


$$\text{hyp} = \text{side} \cdot \sqrt{2}$$

$$\frac{20}{\sqrt{2}} = \frac{x \cdot \sqrt{2}}{\sqrt{2}}$$

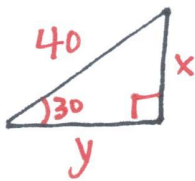
$$x = 14.1 \text{ cm}$$

\* "30-60-90" Triangle:  
"1-2- $\sqrt{3}$ "



Hyp = 2 shorter leg <sup>↖ across from the 30° angle!</sup>  
Long leg =  $\sqrt{3} \cdot \text{shorter leg}$

ex:



$$\text{Hyp} = 2x$$

$$\frac{40}{2} = \frac{2x}{2}$$

$$x = 20$$

$$\text{L leg} = \sqrt{3} \cdot x$$

$$\text{L leg} = \sqrt{3} \cdot 20$$

$$y = 20\sqrt{3}$$

$$x = 2y$$

$$2\sqrt{3} = y\sqrt{3}$$

$$x = 4$$

$$y = 2$$

