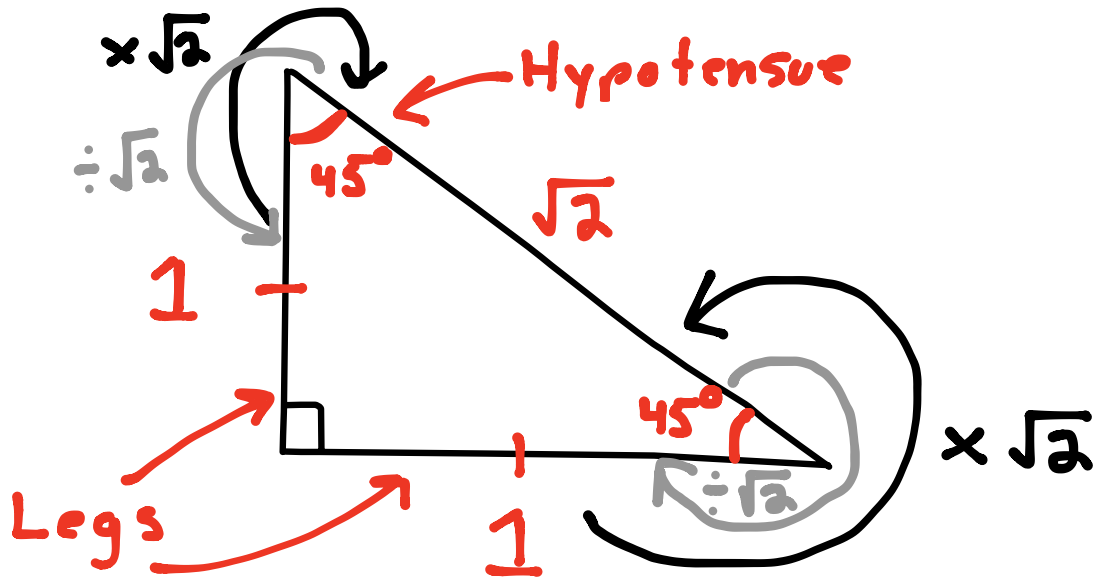
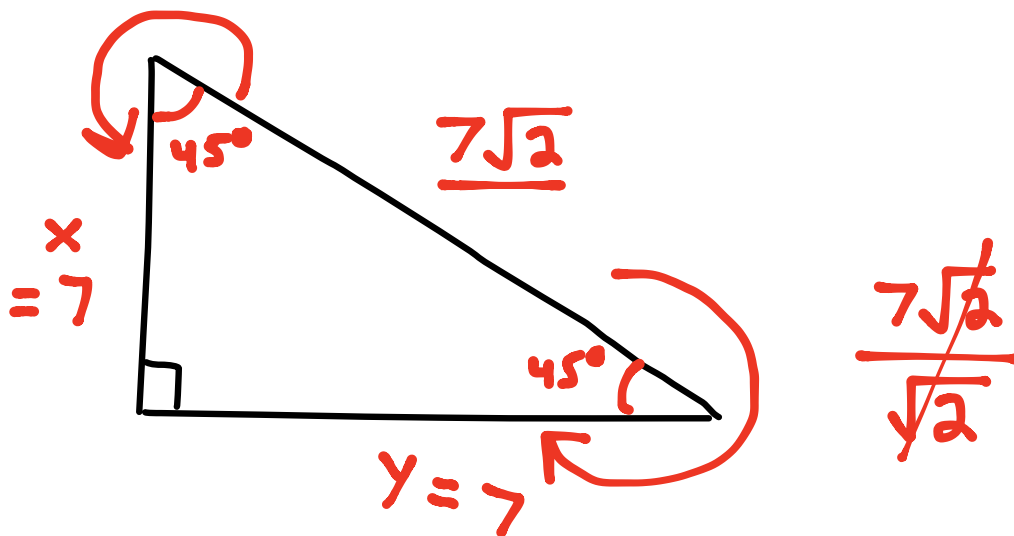


# SPECIAL RIGHT TRIANGLES CHEAT SHEET

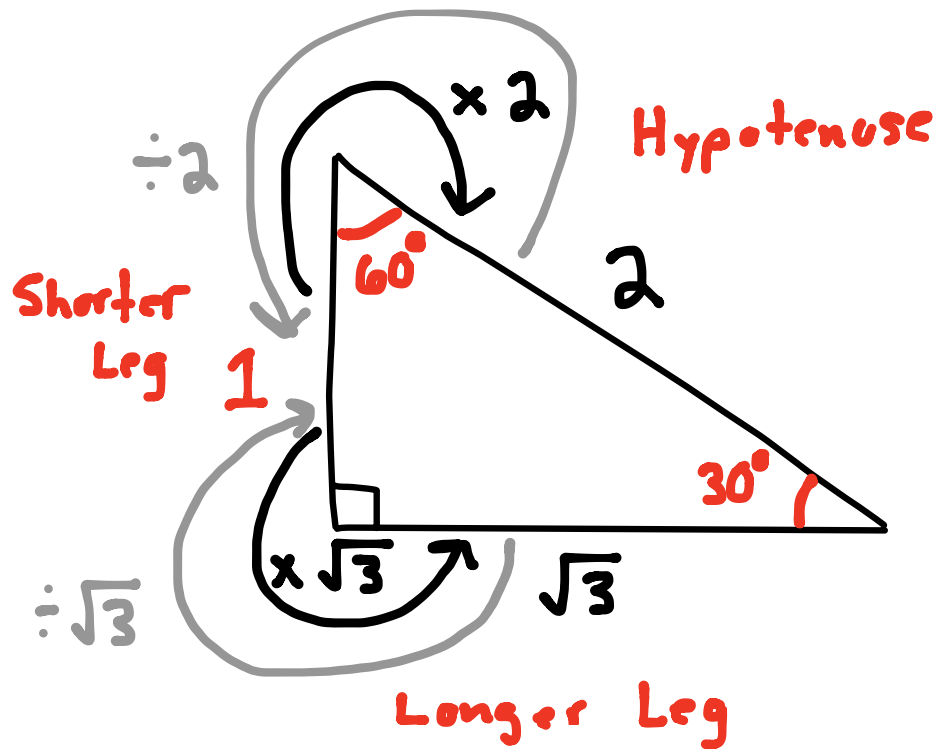
## 45-45-90 TRIANGLE:



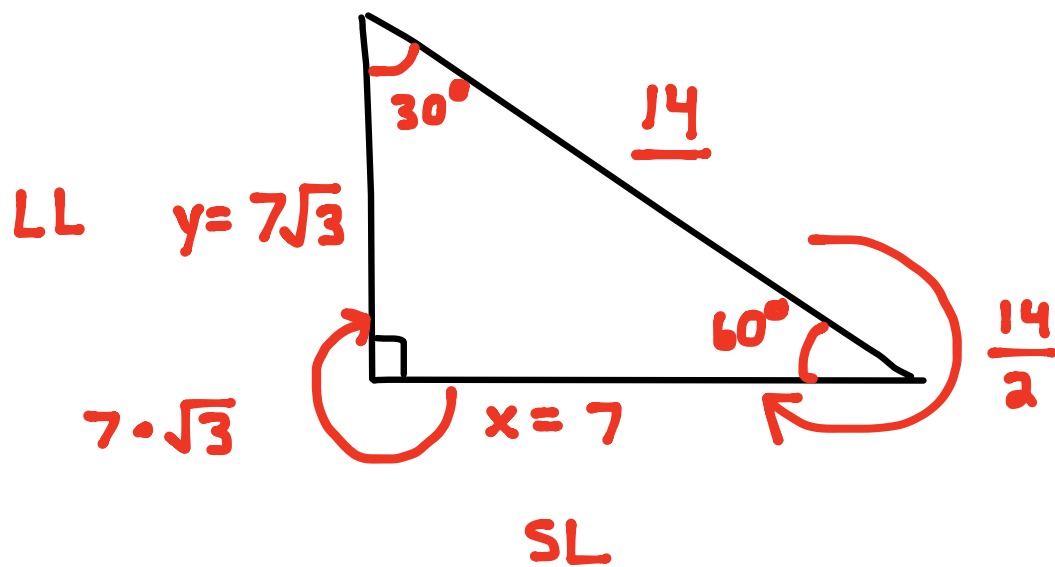
## EXAMPLE:



## 30-60-90 TRIANGLE:



## EXAMPLE:



# UNIT 7 DAY 1 NOTES/HW

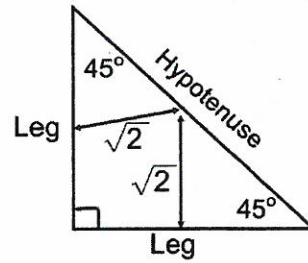
Name: Key

## Trigonometry Prerequisite: Special Right Triangles

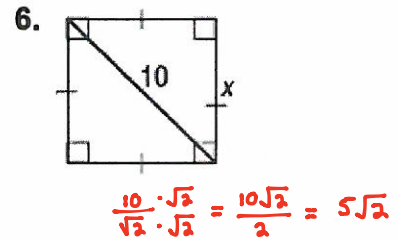
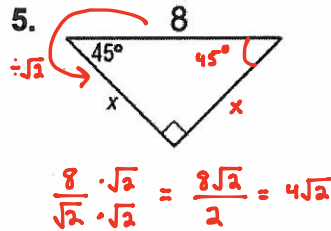
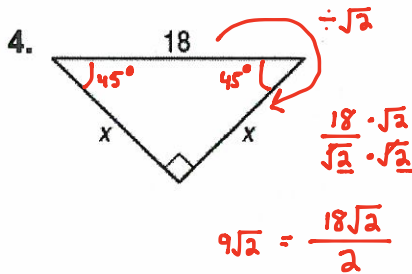
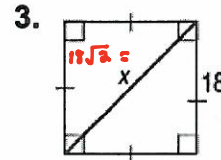
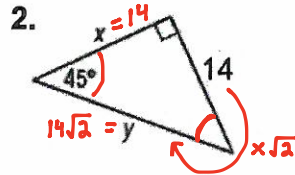
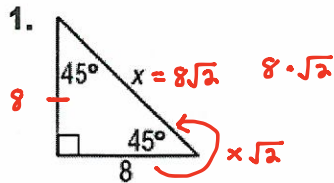
### Special Right Triangles: 45° - 45° - 90°

Hypotenuse = Leg \*  $\sqrt{2}$

Leg =  $\frac{\text{hypotenuse}}{\sqrt{2}}$



Find the value of x in each triangle.

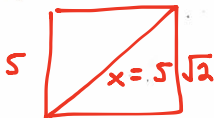


Sketch the figure that is described. Find the requested measure.

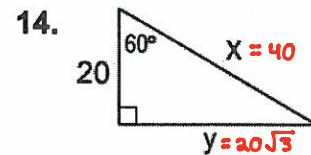
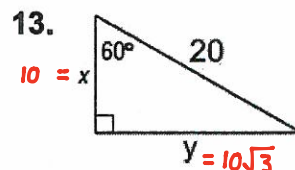
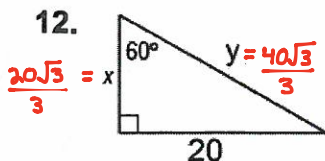
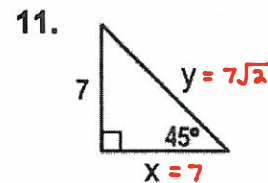
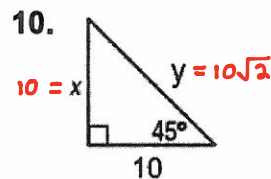
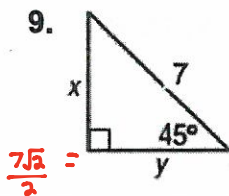
7. The perimeter of a square is 48 meters. Find the length of a diagonal.



8. The perimeter of a square is 20 cm. Find the length of a diagonal.



Find the value of x and y in each figure.

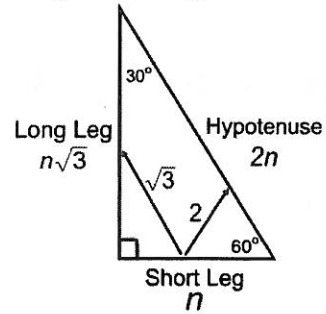


## Trigonometry Prerequisite: Special Right Triangles

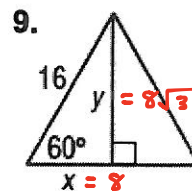
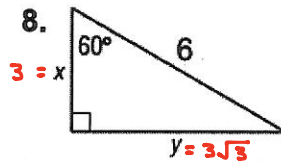
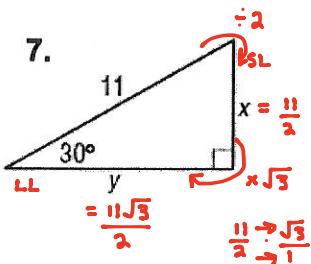
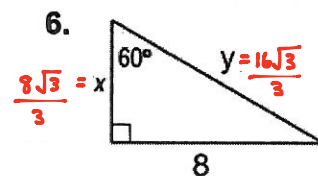
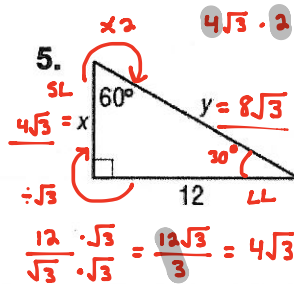
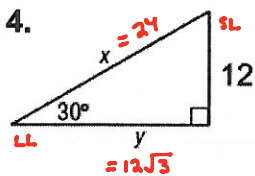
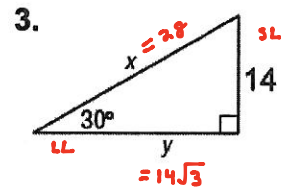
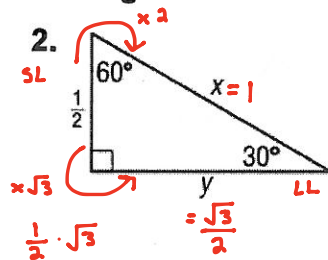
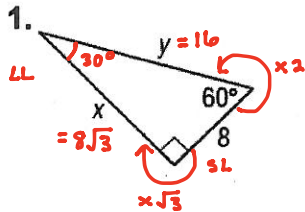
### Special Right Triangles: 30° - 60° - 90°

Hypotenuse = 2 \* Short Leg

Long Leg = Short Leg \*  $\sqrt{3}$

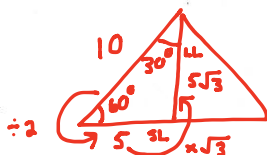


Find the value of x and y in each triangle.

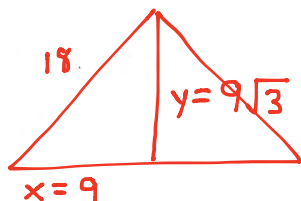


Sketch the figure that is described. Then, find the requested measure.

10. An equilateral triangle has a side length of 10 inches. Find the length of the triangle's altitude.



11. The altitude of an equilateral triangle is 18 inches. Find the length of a side.

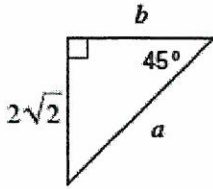


HW: Last 3 pages of packet

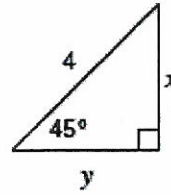
Practice with Special Right Triangles:

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

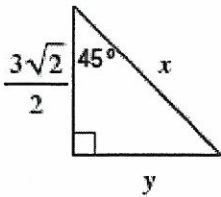
1)



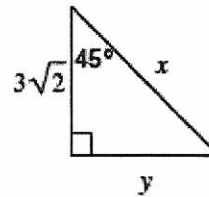
2)



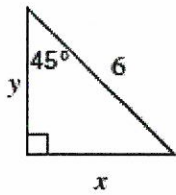
3)



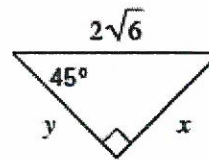
4)



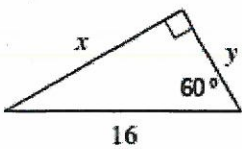
5)



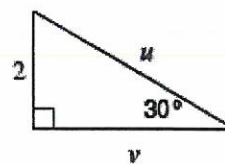
6)



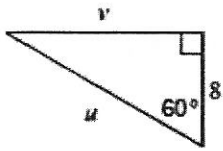
7)



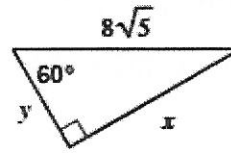
8)



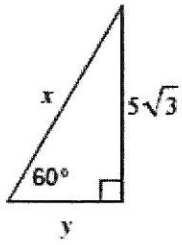
9)



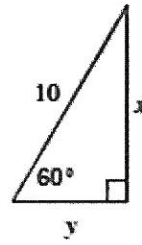
10)



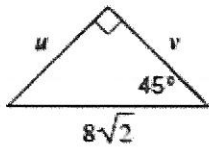
11)



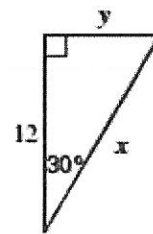
12)



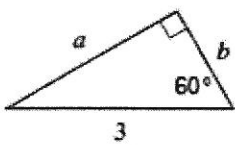
13)



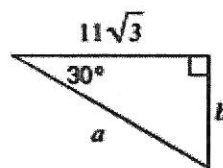
14)



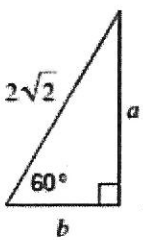
15)



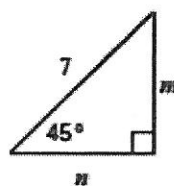
16)



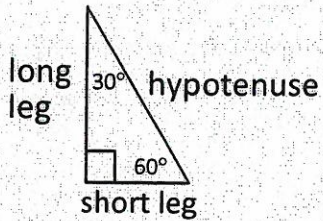
17)



18)



## Special Right Triangles

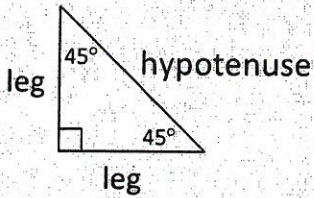


long leg  
short leg  
hypotenuse

$$\text{short leg} = \frac{1}{2} \cdot \text{hypotenuse}$$

$$\text{long leg} = \sqrt{3} \cdot (\text{short leg})$$

$$\text{hypotenuse} = 2 \cdot (\text{short leg})$$



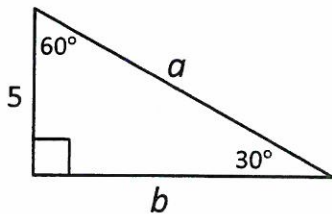
leg  
leg  
hypotenuse

legs are equal

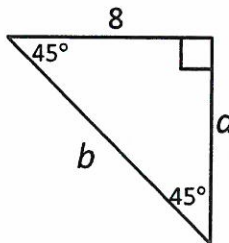
$$\text{hypotenuse} = \sqrt{2} \cdot (\text{leg})$$

Use the 30-60-90 and 45-45-90 triangle relationships to solve for the missing sides. Use the answers to reveal the name of the team that Abraham M. Saperstein established and sent on the road in 1927.

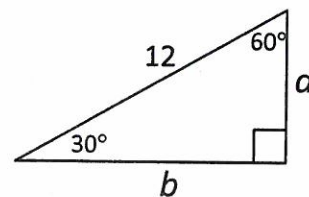
1



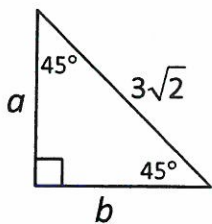
2



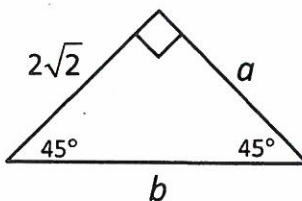
3



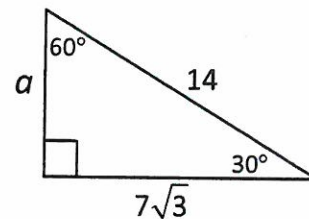
4



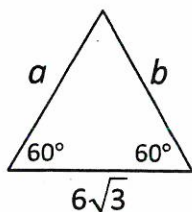
5



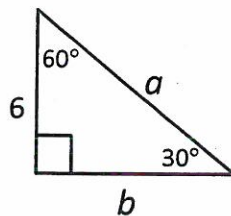
6



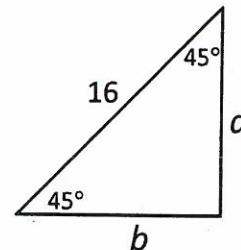
7



8



9



8	$2\sqrt{2}$	3	6	$5\sqrt{3}$	4	7	12	$8\sqrt{2}$	10	$6\sqrt{3}$
A	B	E	G	H	L	M	O	R	S	T

$\frac{8b}{3a}$     $\frac{1b}{5b}$     $\frac{4a}{8a}$     $\frac{1b}{7a}$     $\frac{2a}{2b}$     $\frac{9b}{8a}$     $\frac{5b}{7b}$     $\frac{4b}{3b}$     $\frac{6a}{4b}$

$\frac{3a}{8a}$     $\frac{5b}{5a}$     $\frac{8a}{4a}$     $\frac{5a}{7a}$     $\frac{4a}{2b}$     $\frac{7a}{8a}$     $\frac{2b}{7b}$     $\frac{8a}{3b}$     $\frac{7b}{4b}$     $\frac{9a}{9a}$     $\frac{1a}{1a}$

