

Cornell Notes

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Main Ideas/Questions

Title of Notes: **Special Right Triangles**

There are two types of special right triangles.

- $45^\circ - 45^\circ - 90^\circ$  (*Right Isosceles Triangle*)
- $30^\circ - 60^\circ - 90^\circ$

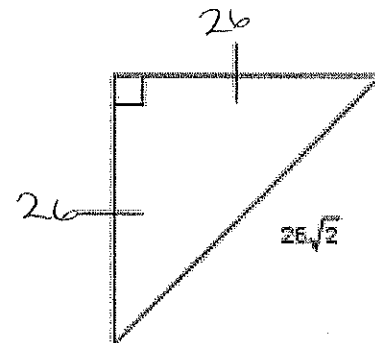
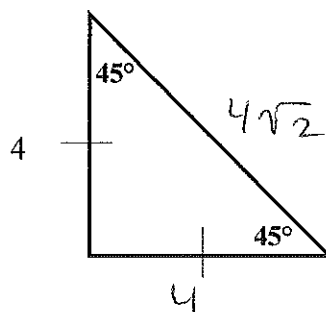
**I.  $45^\circ - 45^\circ - 90^\circ$  (Right Isosceles Triangle)**

In an isosceles right triangle, the hypotenuse is  $\sqrt{2}$  times as long as each leg.

Formula

45	45	90
S	S	$S\sqrt{2}$

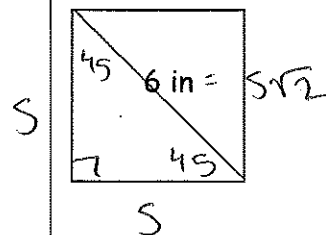
Ex. Find the missing legs



**Practice**

1. The diagonal of a square game board is 6 inches.

What is the length of one of its sides?



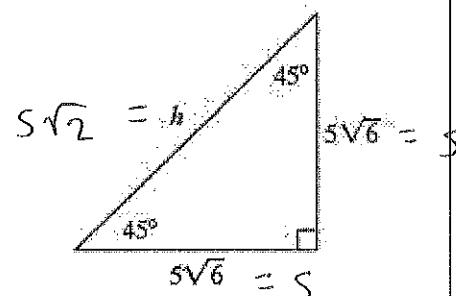
$$\frac{6}{\sqrt{2}} = \frac{s\sqrt{2}}{\sqrt{2}}$$

$$\frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{s\sqrt{2}}{\sqrt{2}}$$

$$\frac{6\sqrt{2}}{2} = s$$

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

2. Find  $h$



$$s\sqrt{2} = h$$

$$5\sqrt{6} = s$$

$$5\sqrt{6} \cdot \sqrt{2} = s\sqrt{2}$$

$$5\sqrt{12} = s\sqrt{2}$$

$$5 \cdot 2\sqrt{3} = s\sqrt{2}$$

$$10\sqrt{3} = s\sqrt{2}$$

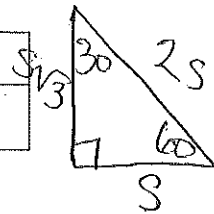
12  
11  
4 (3)  
2 (2)

Main Ideas/Questions

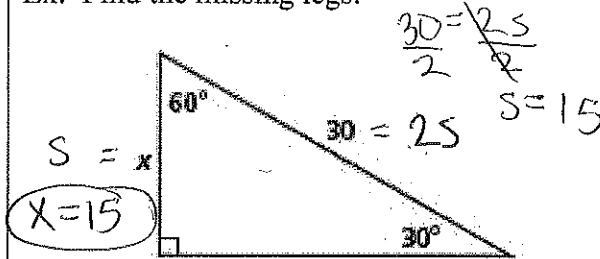
II.  $30^\circ - 60^\circ - 90^\circ$  Triangle the hypotenuse is twice as long as the shorter leg and the longer leg is  $\sqrt{3}$  times as the shorter leg.

Formula

30	60	90
S	$S\sqrt{3}$	2S

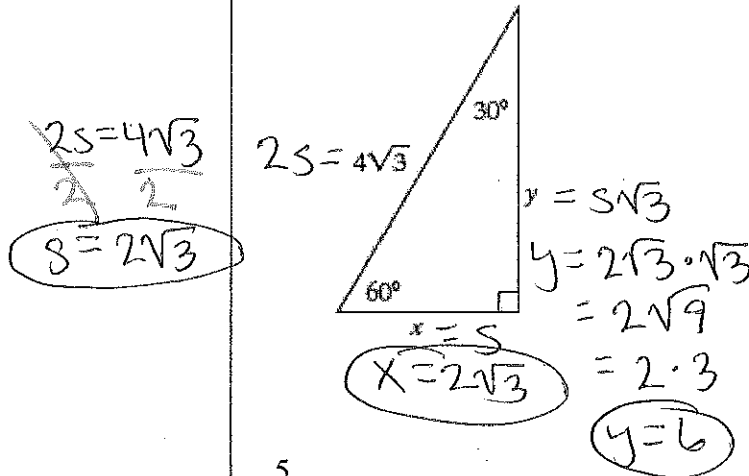


Ex. Find the missing legs.

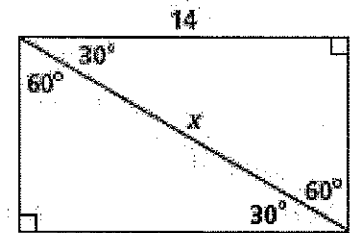


Practice

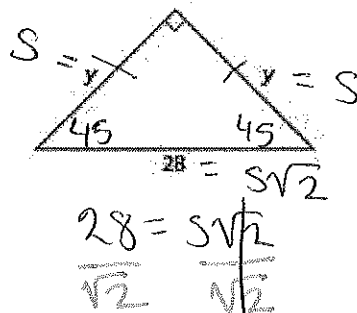
3.



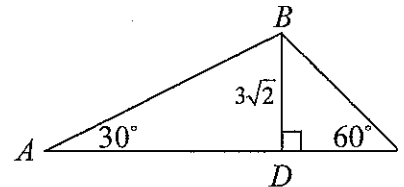
4.



5.



6.



$$\frac{28}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{28\sqrt{2}}{2} = 14\sqrt{2} = S$$