

Name: CW/HW KEY

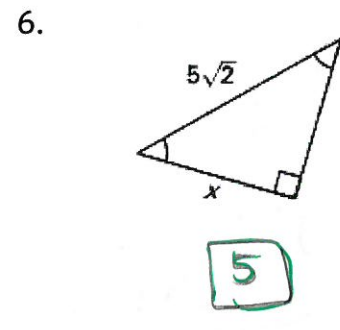
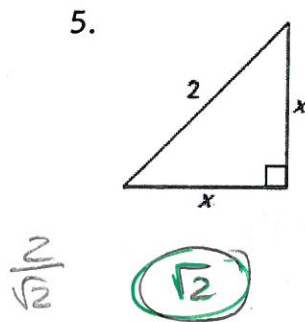
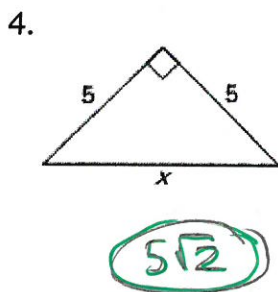
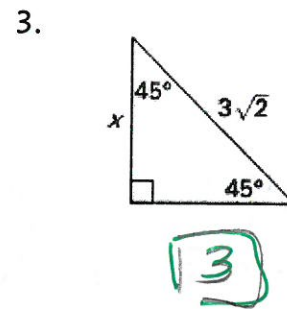
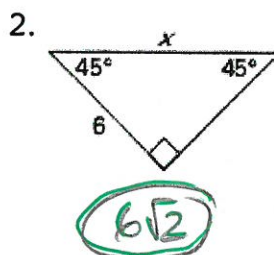
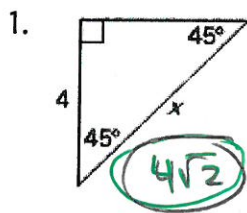
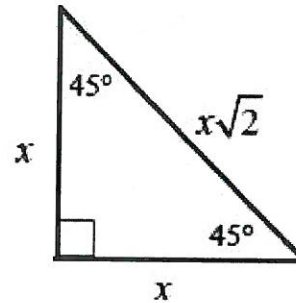
Date: 9/8/14

OB Special Right Triangles

Notes / Classwork

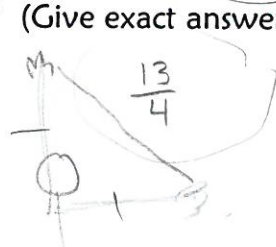
45 - 45 - 90 Triangles

Solve for x in simplified radical form.
Show all work. Draw a box around final answers.



7. You put one arm straight up in the air and the other straight out to your side. The distance between your two hands is 3.25 feet, what is the distance from the center of your body to each hand? (Give exact answer and approximate).

Draw it out.



$$\frac{13}{4} = \frac{13}{4} \cdot \frac{1}{\sqrt{2}}$$

$$\frac{13}{4} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

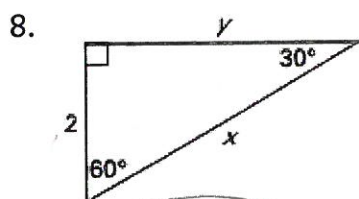
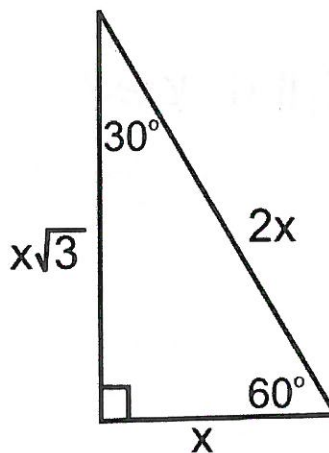
$$\frac{13\sqrt{2}}{4\sqrt{2} \cdot \sqrt{2}}$$

$$\frac{13\sqrt{2}}{8}$$

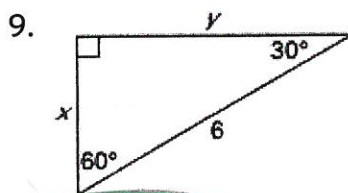
$\approx 2.3 \text{ ft}$

30-60-90 Triangles

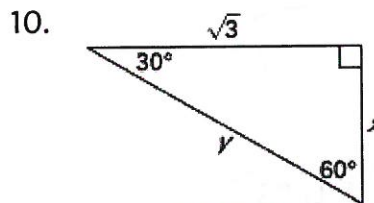
Solve for x in simplified radical form.
Show all work. Draw a box around final answers.



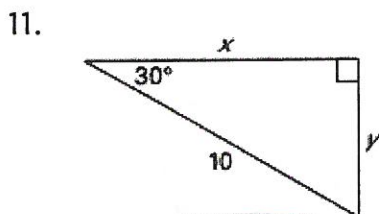
$x = 4$
 $y = 2\sqrt{3}$



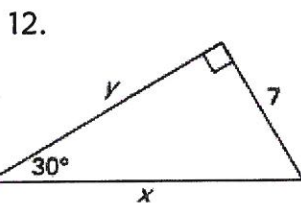
$x = 3$
 $y = 3\sqrt{3}$



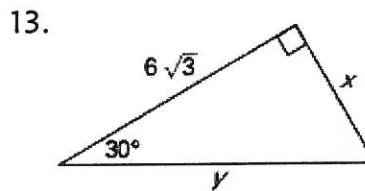
$x = 1$
 $y = 2$



$y = 5$
 $x = 5\sqrt{3}$



$x = 14$
 $y = 7\sqrt{3}$



$x = 6$
 $y = 12$

14. Your pet fish (?) is stuck in a tree! You lean your ladder against the tree to get it down. The top of the ladder is 8 feet above the ground and the bottom of the ladder makes an angle of 60° with the ground.

Draw it!

How long is the ladder?

$\frac{16\sqrt{3}}{3} \text{ ft}$

How far from the ~~wall~~ tree is the bottom of the ladder?

tree

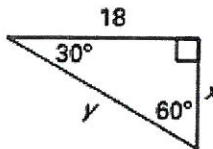
$\frac{8}{\sqrt{3}} = \frac{8\sqrt{3}}{3}$

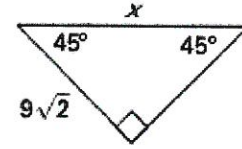
$\frac{8\sqrt{3}}{3} \text{ ft}$

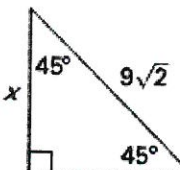


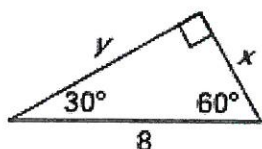
More SRT Practice

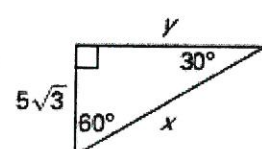
Draw reference triangles!!

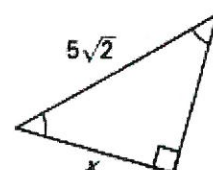
13. 
 $x = 6\sqrt{3}$
 $y = 12\sqrt{3}$

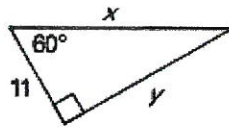
14. 
 $x = 18$

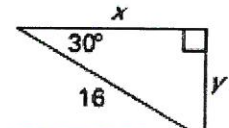
15. 
 $x = 9$

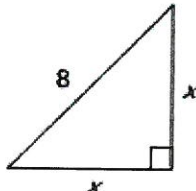
16. 
 $x = 4$
 $y = 4\sqrt{3}$

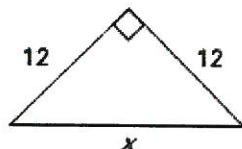
17. 
 $x = 10\sqrt{3}$
 $y = 15$

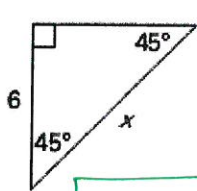
18. 
 $x = 5$

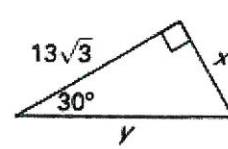
19. 
 $x = 22$
 $y = 11\sqrt{3}$

20. 
 $y = 8$
 $x = 8\sqrt{3}$

21. 
 $x = 4\sqrt{2}$

22. 
 $x = 12\sqrt{2}$

23. 
 $x = 6\sqrt{2}$

24. 
 $x = 13$
 $y = 26$

26. The congruent sides of a right isosceles triangle are 6 units. How long is the base and the height?

27. The side of a square is 10 units. How long is the diagonal?

$d = 10\sqrt{2}$

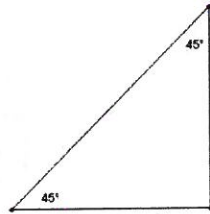
base = $6\sqrt{2}$, height = $3\sqrt{2}$

28. The perimeter of an equilateral triangle is 45 units. What is its height?

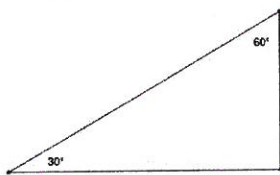
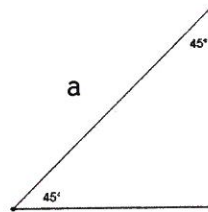
$\frac{15\sqrt{3}}{2}$



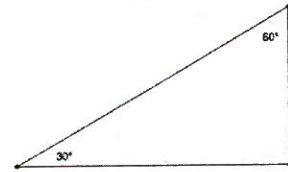
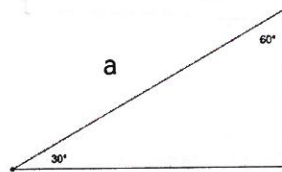
Different ways to think about the side relationships of special right triangles:



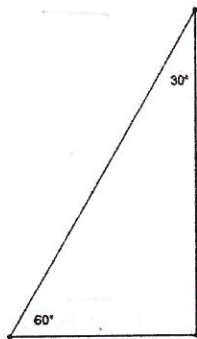
a



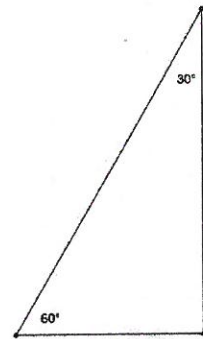
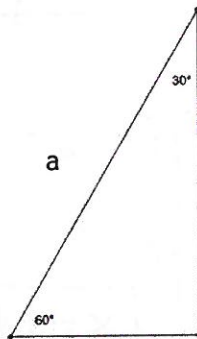
a



a



a



a