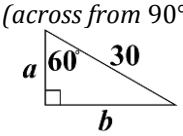
Name: _____ Per: ____

Unit 5 Review – Special Triangles

30-60-90

EXAMPLE – *when you have the hypotenuse (across from* 90°*):*



Step 1: Divide the side value by 2.

That gives you the answer for the side across from 30°.

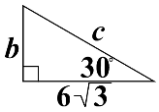
$$a = 30 \div 2 = \boxed{15}$$

Step 2: Using the side value you just found, multiply by $\sqrt{3}$.

That gives you the answer for the side across from 60°.

$$b = 15(\sqrt{3}) = \boxed{15\sqrt{3}}$$

EXAMPLE – *when you have the side across from* 60°*:*



Step 1: Divide the side value by $\sqrt{3}$.

That gives you the answer for the side across from 30°

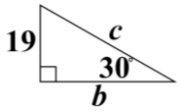
$$b = 6\sqrt{3} \div \sqrt{3} = \boxed{6}$$

Step 2: Using the side value you just found, multiply by 2.

That gives you the answer for the hypotenuse (the side across from 90°*).*

$$c = 6(2) = \boxed{12}$$

EXAMPLE – *when you have the side across from* 30°*:*



Step 1: Multiply the side value by $\sqrt{3}$.

That gives you the answer for the side across from 60°

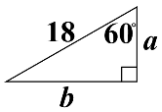
$$b = 19(\sqrt{3}) = \boxed{19\sqrt{3}}$$

Step 2: Using the side value you started with, multiply by 2.

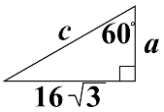
That gives you the answer for the hypotenuse (the side across from 90°*).*

$$c = 19(2) = \boxed{38}$$

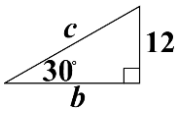
1. Find the length of all missing sides. Write your answer as a simplified radical.



2. Find the length of all missing sides. Write your answer as a simplified radical.

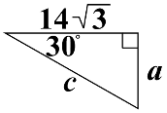


3. Find the length of all missing sides. Write your answer as a simplified radical.

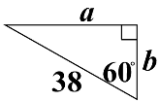


Mixed Practice.

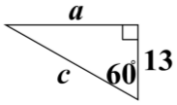
4. Find the length of all missing sides. Write your answer as a simplified radical.



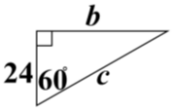
5. Find the length of all missing sides. Write your answer as a simplified radical.



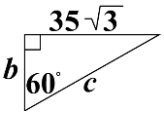
6. Find the length of all missing sides. Write your answer as a simplified radical.



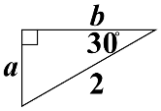
7. Find the length of all missing sides. Write your answer as a simplified radical.



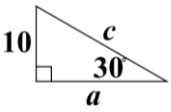
8. Find the length of all missing sides. Write your answer as a simplified radical.



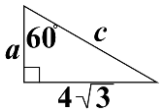
9. Find the length of all missing sides. Write your answer as a simplified radical.



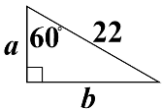
10. Find the length of all missing sides. Write your answer as a simplified radical.



11. Find the length of all missing sides. Write your answer as a simplified radical.

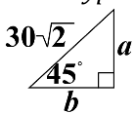
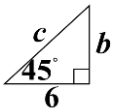
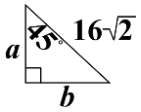
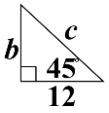


12. Find the length of all missing sides. Write your answer as a simplified radical.

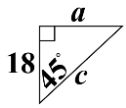
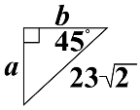
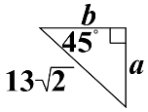
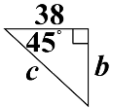
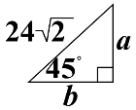
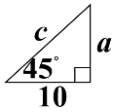
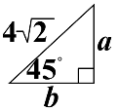


Name: _____ Per: ____

45-45-90

EXAMPLE – *when you have the hypotenuse (across from* 90°*):*	**EXAMPLE –** *when you have the side across from* 45°*:*
 Step 1: Divide the side value by $\sqrt{2}$. *That gives you the answer for both sides across from* 45°*.* $\boldsymbol{a = 30\sqrt{2} \div \sqrt{2} = \boxed{30}}$ & $\boldsymbol{b = \boxed{30}}$	 Step 1: The other side across from a 45° angle is the same. $\boldsymbol{b = \boxed{6}}$ Step 2: Multiply by $\sqrt{2}$. *That gives you the answer for the hypotenuse (the side across from* 90°*).* $\boldsymbol{c = 6(\sqrt{2}) = \boxed{6\sqrt{2}}}$
13. Find the length of all missing sides. Write your answer as a simplified radical. 	14. Find the length of all missing sides. Write your answer as a simplified radical. 

Mixed Practice.

15. Find the length of all missing sides. Write your answer as a simplified radical. 	16. Find the length of all missing sides. Write your answer as a simplified radical. 	17. Find the length of all missing sides. Write your answer as a simplified radical. 	18. Find the length of all missing sides. Write your answer as a simplified radical. 
19. Find the length of all missing sides. Write your answer as a simplified radical. 	20. Find the length of all missing sides. Write your answer as a simplified radical. 	21. Find the length of all missing sides. Write your answer as a simplified radical. 	22. Find the length of all missing sides. Write your answer as a simplified radical. 

<u>Unit 5 Review – Special Triangles</u>

1. $a = 9$ & $b = 9\sqrt{3}$	2. $a = 16$ & $c = 32$	3. $b = 12\sqrt{3}$ & $c = 24$	4. $a = 14$ & $c = 28$
5. $a = 19\sqrt{3}$ & $b = 19$	6. $a = 13\sqrt{3}$ & $c = 26$	7. $b = 24\sqrt{3}$ & $c = 48$	8. $b = 35$ & $c = 70$
9. $a = 1$ & $b = \sqrt{3}$	10. $a = 10\sqrt{3}$ & $c = 20$	11. $a = 4$ & $c = 8$	12. $a = 11$ & $b = 11\sqrt{3}$
13. $a = 16$ & $b = 16$	14. $b = 12$ & $c = 12\sqrt{2}$	15. $a = 18$ & $c = 18\sqrt{2}$	16. $a = 23$ & $b = 23$
17. $a = 13$ & $b = 13$	18. $b = 38$ & $c = 38\sqrt{2}$	19. $a = 25$ & $b = 25$	20. $a = 35$ & $b = 35$
21. $a = 10$ & $c = 10\sqrt{2}$		22. $a = 4$ & $b = 4$	