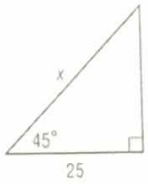
NAME _____ DATE _____ PERIOD _____

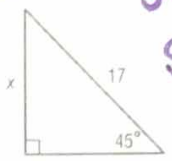
8-3 Skills Practice

Special Right Triangles

Find x.

1. 

$x = 25\sqrt{2}$

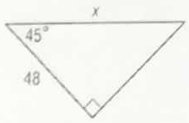
2. 

$5\sqrt{2} = 17$

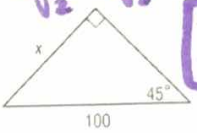
$5 = \frac{17}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

$5 = \frac{17\sqrt{2}}{2}$

$x = \frac{17\sqrt{2}}{2}$

3. 

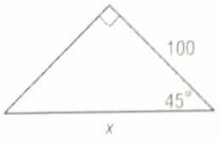
$x = 48\sqrt{2}$

4. 

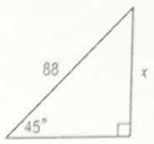
$\frac{5\sqrt{2}}{\sqrt{2}} = \frac{100}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{100\sqrt{2}}{2} = 50\sqrt{2}$

$x = 50\sqrt{2}$

$5\sqrt{2}$

5. 

$x = 100\sqrt{2}$

6. 

$\frac{88}{\sqrt{2}} = \frac{5\sqrt{2}}{\sqrt{2}}$

$5 = \frac{88}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{88\sqrt{2}}{2}$

$x = 44\sqrt{2}$

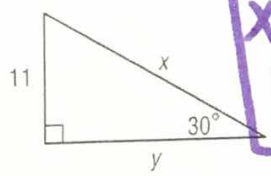
7. Determine the length of the leg of 45°-45°-90° triangle with a hypotenuse length of 26.

$\frac{26}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{26\sqrt{2}}{2} = 13\sqrt{2}$

8. Find the length of the hypotenuse of a 45°-45°-90° triangle with a leg length of 50 centimeters.

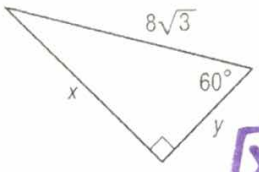
$50\sqrt{2}$

Find x and y.

9. 

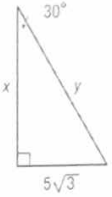
$x = 22$

$y = 11\sqrt{3}$

10. 

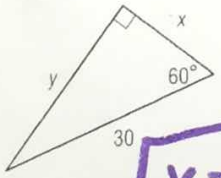
$x = 12$

$y = 4\sqrt{3}$

11. 

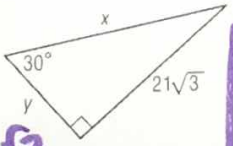
$x = 15$

$y = 10\sqrt{3}$

12. 

$x = 15$

$y = 15\sqrt{3}$

13. 

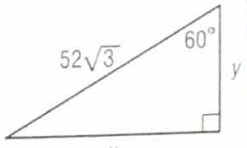
$5\sqrt{3}$

$21\sqrt{3} \cdot \sqrt{3}$

$21 \cdot 3 = 63$

$x = 42\sqrt{3}$

$y = 63$

14. 

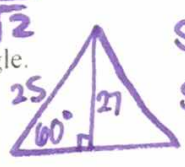
$y = 26\sqrt{3}$

$x = 78$

$\frac{52\sqrt{3}}{\sqrt{2}} = \frac{5\sqrt{2}}{\sqrt{2}}$ → $5 = \frac{52\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

15. An equilateral triangle has an altitude length of 27 feet. Determine the length of a side of the triangle.

side = $18\sqrt{3}$



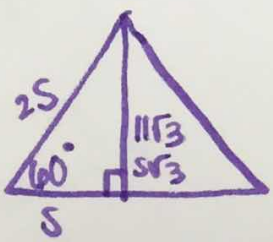
$5\sqrt{3} = 27$

$5 = \frac{27}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$5 = 9\sqrt{3}$

16. Find the length of the side of an equilateral triangle that has an altitude length of $11\sqrt{3}$ feet.

side = 22



$5 = 11$