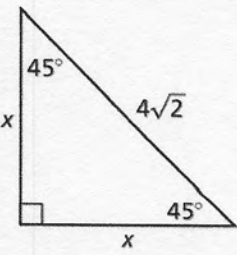


Special Right Triangles

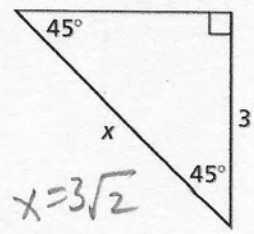
Practice and Problem Solving: A/B

Find the value of each variable. Write your answer in simplest radical form.

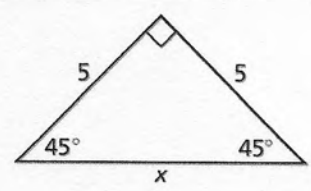
$$x = \frac{5\sqrt{2}}{\sqrt{2}\sqrt{2}} = \frac{5\sqrt{2}}{2}$$

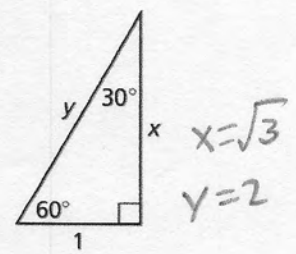
1. 

$x = \frac{4\sqrt{2}}{\sqrt{2}} = 4$

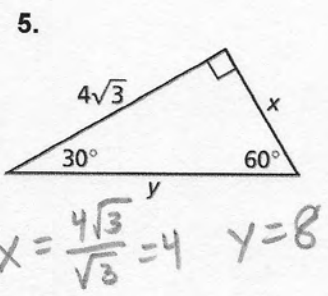
2. 

$x = 3\sqrt{2}$

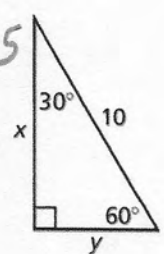
3. 

4. 

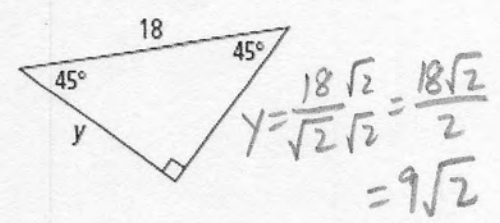
$x = \sqrt{3}$
 $y = 2$

5. 

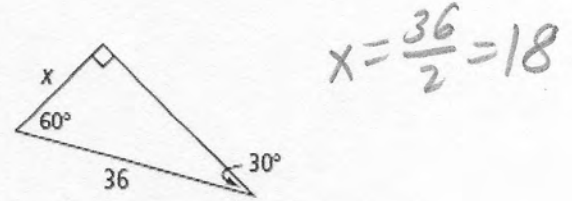
$x = \frac{4\sqrt{3}}{\sqrt{3}} = 4$ $y = 8$

6. 

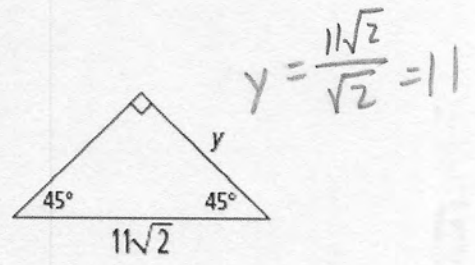
$y = \frac{10}{2} = 5$
 $x = 5\sqrt{3}$

7. 

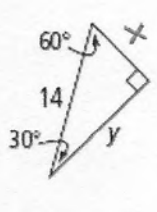
$y = \frac{18\sqrt{2}}{\sqrt{2}\sqrt{2}} = \frac{18\sqrt{2}}{2} = 9\sqrt{2}$

8. 

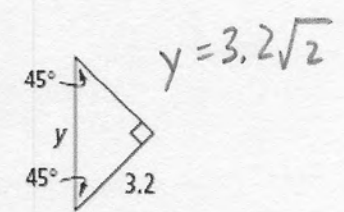
$x = \frac{36}{2} = 18$

9. 

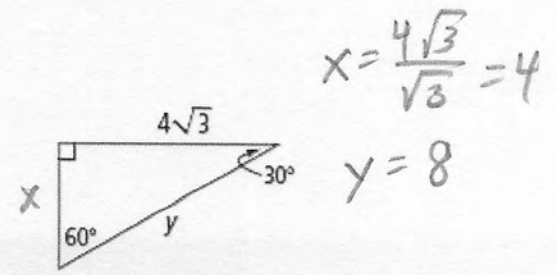
$y = \frac{11\sqrt{2}}{\sqrt{2}} = 11$

10. 

$x = \frac{14}{2} = 7$
 $y = 7\sqrt{3}$

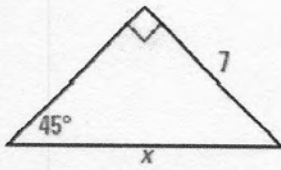
11. 

$y = 3.2\sqrt{2}$

12. 

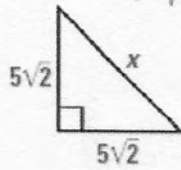
$x = \frac{4\sqrt{3}}{\sqrt{3}} = 4$
 $y = 8$

13.

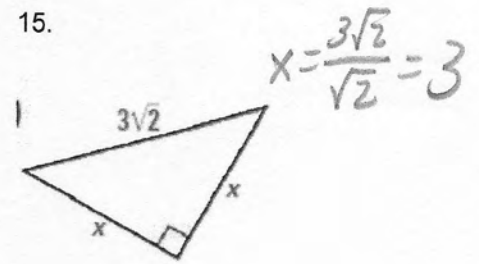


$$x = 7\sqrt{2}$$

$$14. \quad x = 5\sqrt{2}\sqrt{2} = 5(2) = 10$$

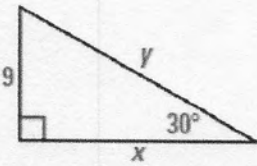


15.



$$x = \frac{3\sqrt{2}}{\frac{1}{\sqrt{2}}} = 3$$

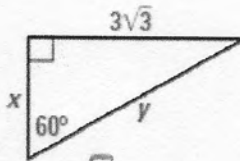
16.



$$x = 9\sqrt{3}$$

$$y = 18$$

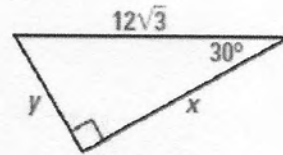
17.



$$x = \frac{3\sqrt{3}}{\frac{1}{\sqrt{3}}} = 3$$

$$y = 6$$

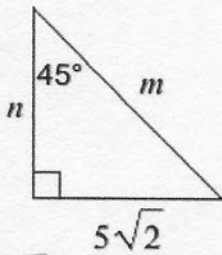
18.



$$y = \frac{12\sqrt{3}}{2} = 6\sqrt{3}$$

$$x = 6\sqrt{3}\sqrt{3} = 6(3) = 18$$

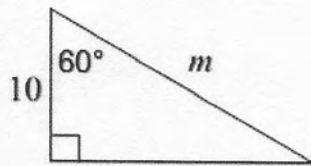
19.



$$n = 5\sqrt{2}$$

$$m = 5\sqrt{2}\sqrt{2} = 5(2) = 10$$

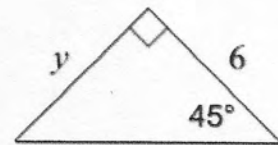
20.



$$n = 10\sqrt{3}$$

$$m = 20$$

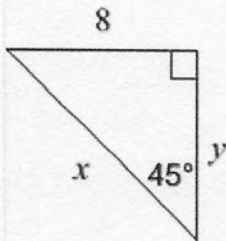
21.



$$y = 6$$

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

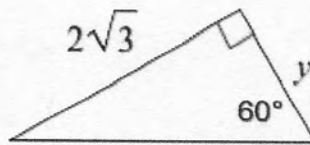
22.



$$y = 8$$

$$x = 8\sqrt{2}$$

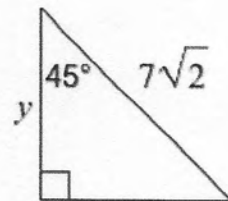
23.



$$y = \frac{2\sqrt{3}}{\frac{1}{\sqrt{3}}} = 2$$

$$x = 4$$

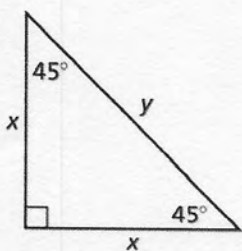
24.



$$x = \frac{7\sqrt{2}}{\frac{1}{\sqrt{2}}} = 7$$

$$y = 7$$

25.



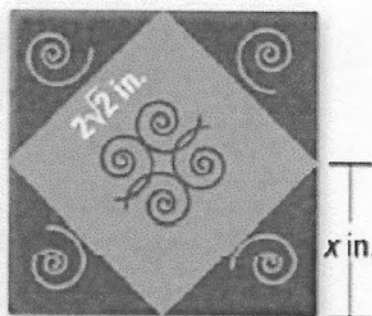
$$\frac{24}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{24\sqrt{2}}{2} = 12\sqrt{2}$$

x	5	4	$\sqrt{2}$	$12\sqrt{2}$
y	$5\sqrt{2}$	$4\sqrt{2}$	2	24

26. The square tile shown has painted corners in the shape of congruent $45^\circ-45^\circ-90^\circ$ triangles. What is the value of x ? What is the side length of the tile?

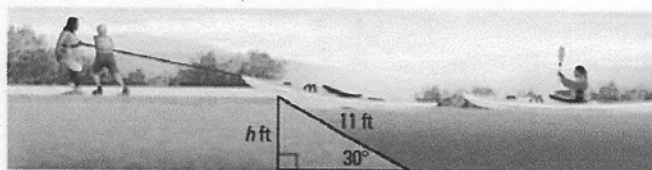
$$x = \frac{2\sqrt{2}}{\sqrt{2}} = 2$$

$$\text{side} = 4$$



27. A ramp is used to launch a kayak. What is the height of an 11 foot ramp when its angle is 30° as shown?

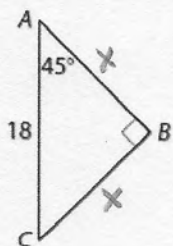
$$h = \frac{11}{2} = 5.5$$



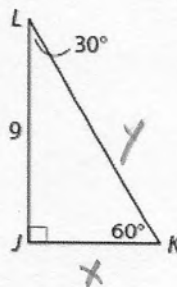
Find the lengths of the other two sides. Write your answer in simplest radical form.

5.

$$x = \frac{18}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{18\sqrt{2}}{2} = 9\sqrt{2}$$



6.

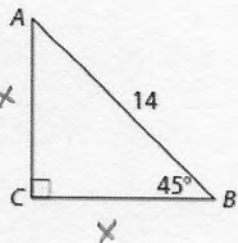


$$x = \frac{9}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{9\sqrt{3}}{3} = 3\sqrt{3}$$

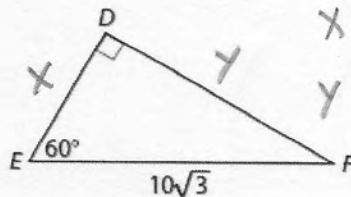
$$y = 6\sqrt{3}$$

9.

$$x = \frac{14}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{14\sqrt{2}}{2} = 7\sqrt{2}$$



10.



$$x = \frac{10\sqrt{3}}{2} = 5\sqrt{3}$$

$$y = 5\sqrt{3}\sqrt{3} = 5(3) = 15$$