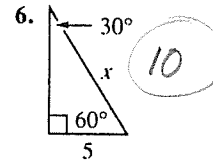
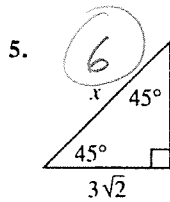
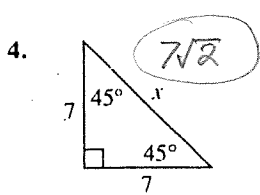


Complete each statement.

- To find the length of the hypotenuse of a 45-45-90 triangle, multiply the length of one of the legs by $\sqrt{2}$.
- To find the length of the hypotenuse of a 30-60-90 triangle, multiply the length of the shorter leg by 2 .
- To find the length of the longer leg of a 30-60-90 triangle, multiply the length of the shorter leg by $\sqrt{3}$.

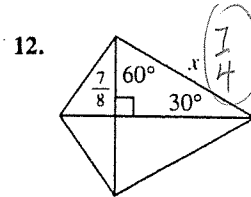
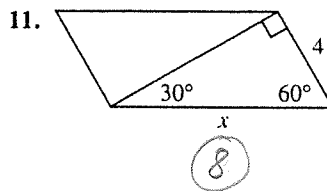
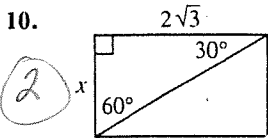
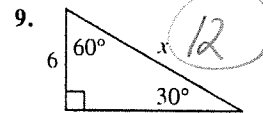
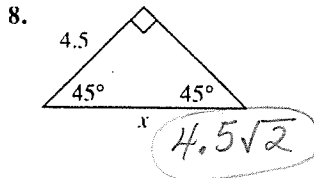
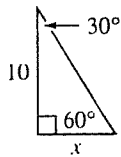
Find the value of x .



7. $10 = x\sqrt{3}$

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

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



13. The length of the hypotenuse of a 45-45-90 triangle is $5\sqrt{2}$. Find the length of a leg.

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

$x = 5$

14. The length of the hypotenuse of a 30-60-90 triangle is 20. What is the length of the shorter leg.

$2x = 20$

$x = 10$

short leg = 10

15. The length of the longer leg of a 30-60-90 triangle is $4\sqrt{3}$. What is the length of the shorter leg?

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

$$x = 4$$

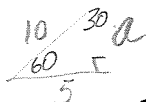
shorter = 4

16. Find the length of the diagonal of a square with sides 8 cm long. (Don't use Pythagorean Thm.)

$$8\sqrt{2}$$

17. Find the length of the altitude of an equilateral triangle if a side is 10 mm long. (Don't use Pythagorean Thm.)

$$\text{altitude} = 5\sqrt{3}$$

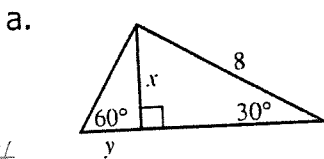


18. If the perimeter of a square is 64 cm, how long is its diagonal? (Don't use Pythagorean Thm.)



$$16\sqrt{2}$$

19. Find the value of x and y.

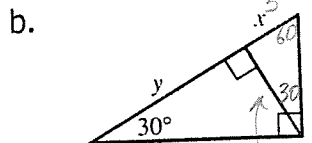


$$2\sqrt{3} = 4$$

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

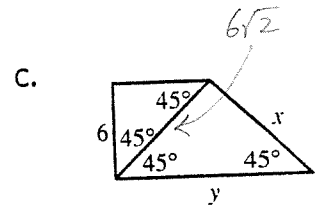
$$x = 4$$

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



$$x = 3$$

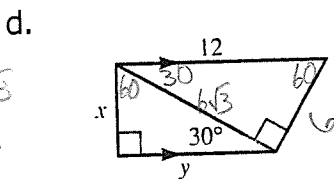
$$y = 9$$



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

$$y = 12$$

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



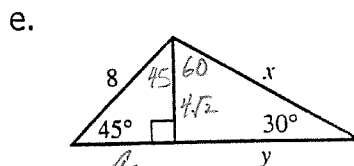
$$2x = 6\sqrt{3}$$

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

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

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

$$y = 9$$



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

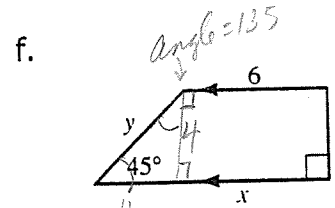
$$a = \frac{8}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$a = 4\sqrt{2}$$

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

$$y = 4\sqrt{6}$$

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



$$x = 10$$

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

$$\begin{array}{r} 360 \\ -225 \\ \hline 135 \\ -90 \\ \hline 45 \end{array}$$