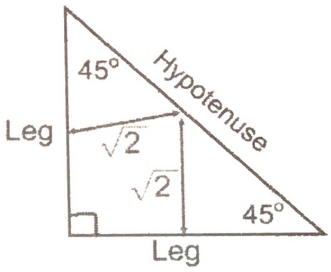
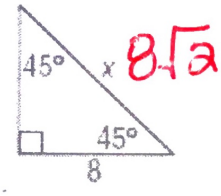
Special Right Triangles: 45° - 45° - 90°

Hypotenuse = Leg * $\sqrt{2}$ $\sqrt{2}$

Leg = $\frac{\text{hypotenuse}}{\sqrt{2}}$



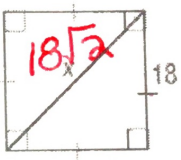
Find the value of x in each triangle.

1. 

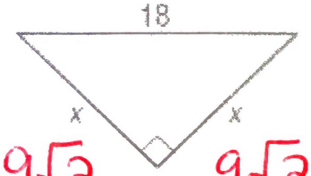
8 $8\sqrt{2}$

2. 

14 $14\sqrt{2}$

3. 

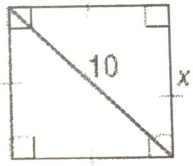
$18\sqrt{2}$

4. 

$9\sqrt{2}$ $9\sqrt{2}$

5. 

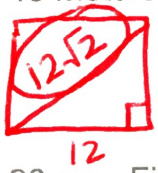
$4\sqrt{2}$

6. 

$5\sqrt{2}$

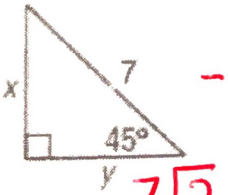
Sketch the figure that is described. Find the requested measure.

7. The perimeter of a square is 48 meters. Find the length of a diagonal.

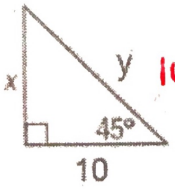


8. The perimeter of a square is 20 cm. Find the length of a diagonal.

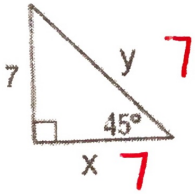
Find the value of x and y in each figure.

9. 

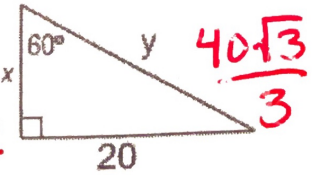
$\frac{7\sqrt{2}}{2}$ $\frac{7\sqrt{2}}{2}$

10. 

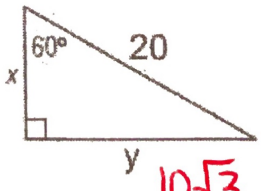
10 $10\sqrt{2}$

11. 

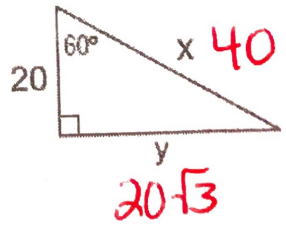
$7\sqrt{2}$ 7

12. 

$\frac{20\sqrt{3}}{3}$ $\frac{40\sqrt{3}}{3}$

13. 

10 $10\sqrt{3}$

14. 

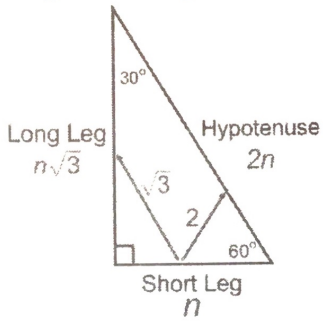
40 $20\sqrt{3}$

Trigonometry Prerequisite: Special Right Triangles

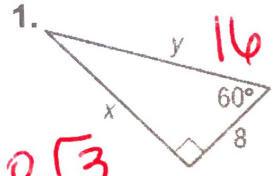
Special Right Triangles: 30° - 60° - 90°

Hypotenuse = 2 * Short Leg

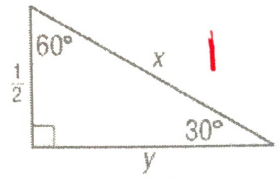
Long Leg = Short Leg * $\sqrt{3}$



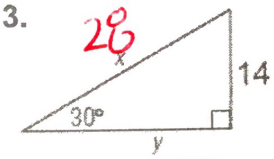
Find the value of x and y in each triangle.

1. 

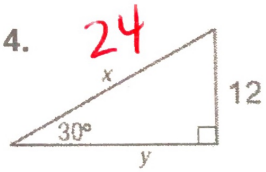
$8\sqrt{3}$

2. 

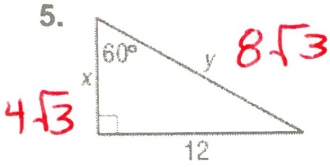
$\frac{\sqrt{3}}{2}$

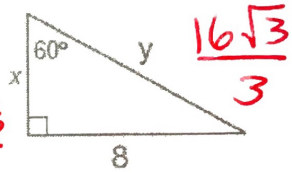
3. 

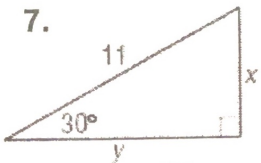
$14\sqrt{3}$

4. 

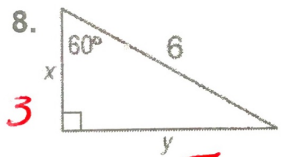
$12\sqrt{3}$

5. 

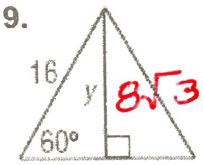
6. 

7. 

$\frac{11}{2}$
$\frac{11\sqrt{3}}{2}$

8. 

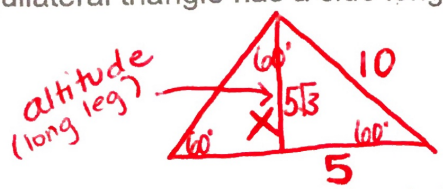
$3\sqrt{3}$

9. 

8

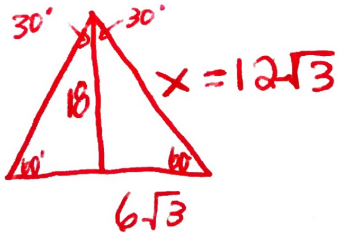
Sketch the figure that is described. Then, find the requested measure.

10. An equilateral triangle has a side length of 10 inches. Find the length of the triangles altitude.



$x = 5\sqrt{3}$

11. The altitude of an equilateral triangle is 18 inches. Find the length of a side.



$x = 12\sqrt{3}$