Trigonometry Prerequisite: Special Right Triangles

Special Right Triangles: $45^\circ - 45^\circ - 90^\circ$

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

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

Find the value of $x$ in each triangle.

1. 

2.

3. 

4. 

5. 

6. 

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. 

10. 

11. 

12. 

13. 

14.
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. \(y\) \(x\) 8
   \(60°\)

2. \(30°\)
   \(x\) \(y\)
   \(60°\)
   \(2\)

3. \(x\) 14
   \(30°\)
   \(y\)

4. \(x\) 12
   \(30°\)
   \(y\)

5. \(x\) \(y\)
   \(60°\)
   12

6. \(x\) \(y\)
   \(60°\)
   8

7. \(x\) \(y\)
   \(30°\)
   11

8. \(x\) \(y\)
   \(60°\)
   6

9. \(16\)
   \(y\)
   \(60°\)
   \(x\)

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.

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