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

Hypotenuse = 2 * Short Leg

Long Leg = Short Leg * $\sqrt{3}$
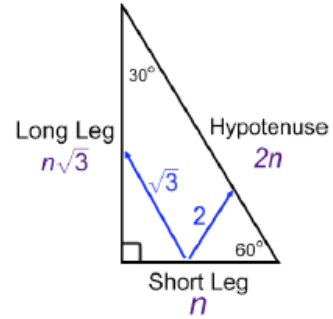
Find the value of x and y in each triangle.

1.

2.

3.

4.

5.

6.

7.

8.

9.
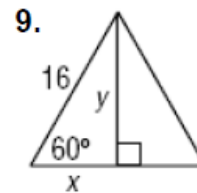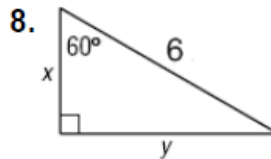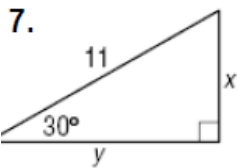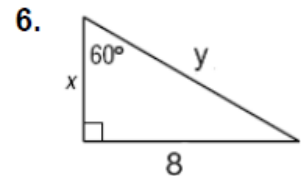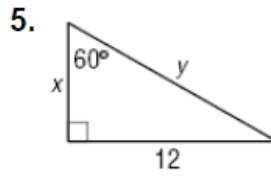
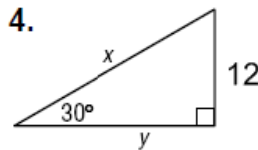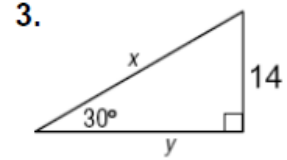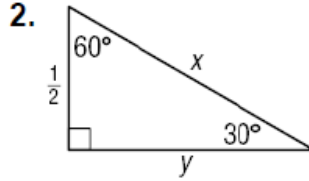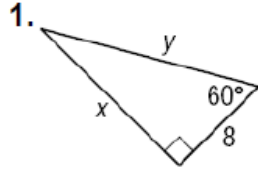**Sketch the figure that is described. Then, find the requested measure.**

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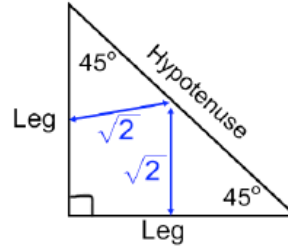Find the length of the triangles altitude.

11. The altitude of an equilateral triangle is 18 inches. Find the length of a side.
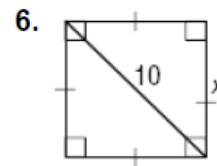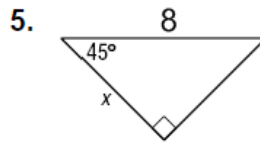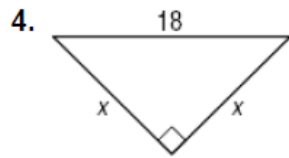
1

Special Right Triangles: 45° - 45° - 90°
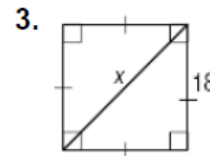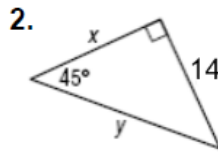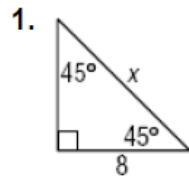
Hypotenuse = Leg * $\sqrt{2}$ $\sqrt{2}$

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

Find the value of x in each triangle.

1.
45°   x
45°
8

2.
x
45°   14
y

3.
x
18

4.
18
x   x

5.
8
45°
x

6.
10
x

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.
x   7
45°
y

10.
x   y
45°
10

11.
7   y
45°
x

12.
60°   y
x
20

13.
60°   20
x
y

14.
60°   x
20
y