

Trigonometry Prerequisite: Special Right Triangles

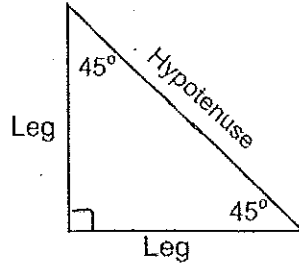
NAME ANSWERS

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

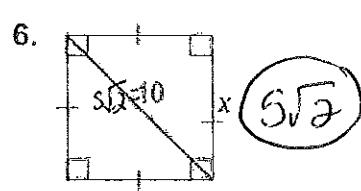
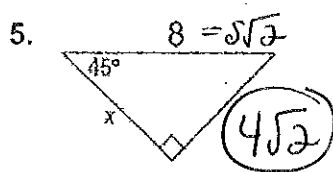
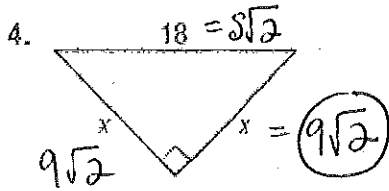
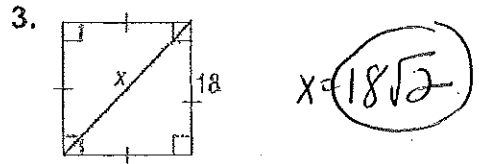
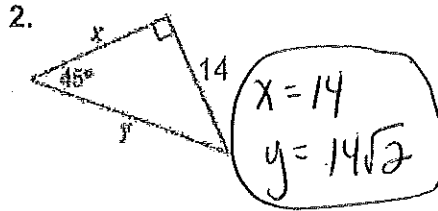
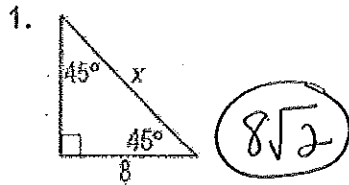
Hypotenuse = Leg \*  $\sqrt{2}$

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

- ① Label sides, "s", "s", "s $\sqrt{2}$ "
- ② Write eqn. w/ given value.
- ③ Solve for "s"
- ④ Substitute in for "s"

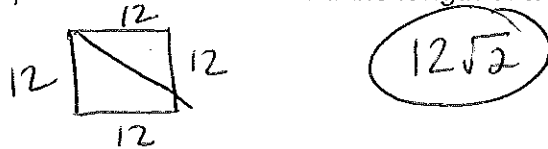


Find the value of x in each triangle.

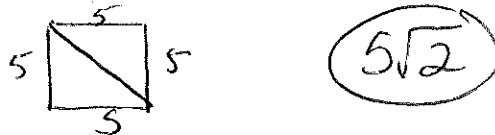


Sketch the figure that is described. Find the requested measure.

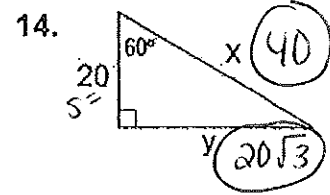
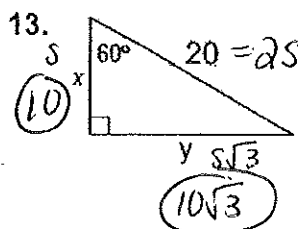
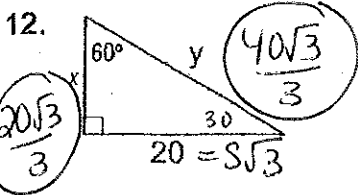
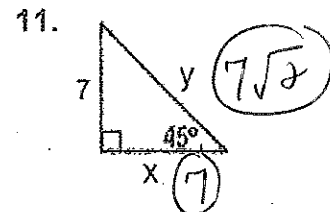
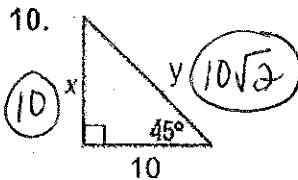
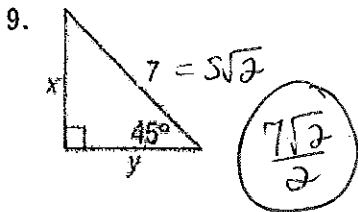
7. The perimeter of a square is 48 meters. Find the length of a diagonal.



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.



$s = \frac{20\sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = \frac{20\sqrt{3}}{3}$

## Trigonometry Prerequisite: Special Right Triangles

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

Hypotenuse = 2 \* Short Leg

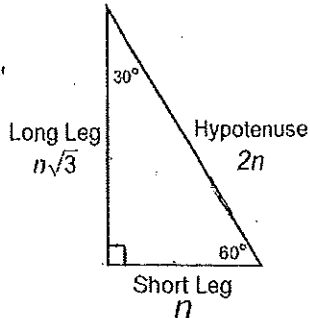
Long Leg = Short Leg \*  $\sqrt{3}$

① Label sides "s", " $s\sqrt{3}$ ", "2s"

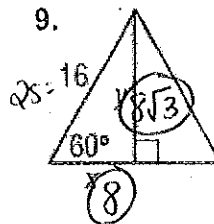
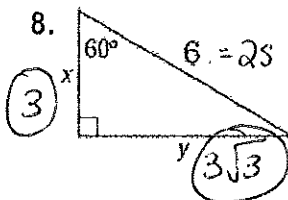
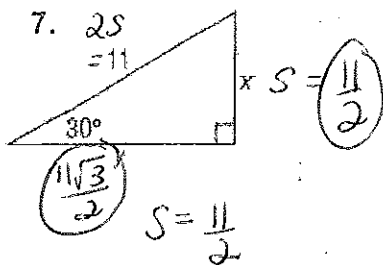
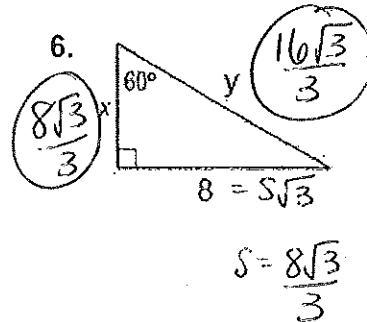
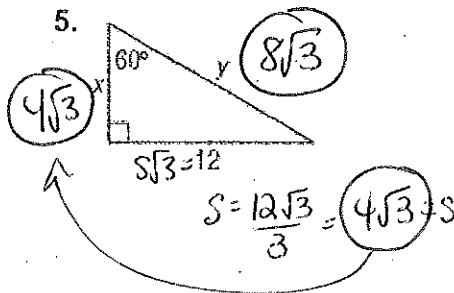
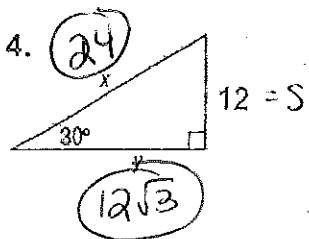
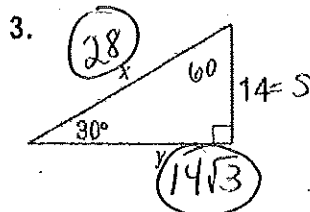
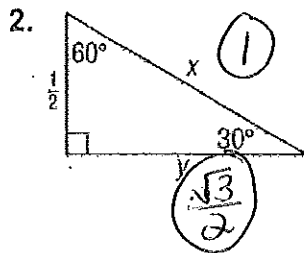
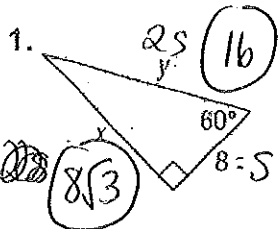
② Write eqn. w/ given value.

③ Solve for "s"

④ Substitute in for "s"

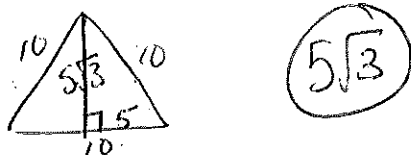


Find the value of x and y in each triangle.

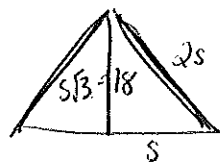


Sketch the figure that is described. Then, find the requested measure.

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.



$$s\sqrt{3} = 18$$

$$s = \frac{18\sqrt{3}}{3} = 6\sqrt{3}$$

$$2s = 12\sqrt{3}$$