8.1

Radicals/Geometric Mean

Radicals: _____

- _____

_____

- _____

Rules for Radicals:

- _____

$2\sqrt{3} + 3\sqrt{3} =$ _____

- _____

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

- _____

$\frac{\sqrt{36}}{\sqrt{12}} =$ _____

Rationalizing: _____

_____

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

Geometric Mean: _____

_____

- _____
- _____

Find the geometric mean of 9 and 4:

In $\frac{\text{a}}{\text{x}} = \frac{y}{b}$, _____

If x and y are the same, that is $\frac{\text{a}}{\text{x}} = \frac{x}{b}$

_____

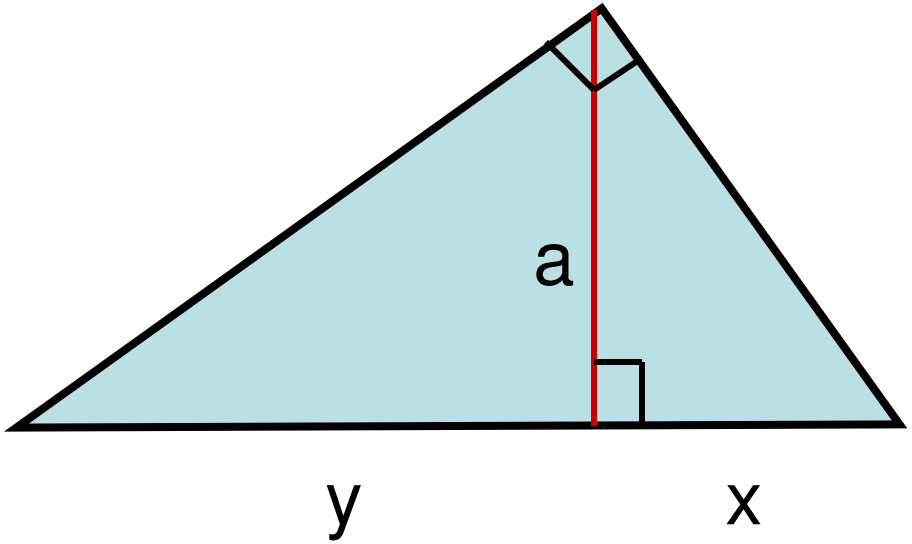
_____

Corollary 1: _____

_____

_____

_____

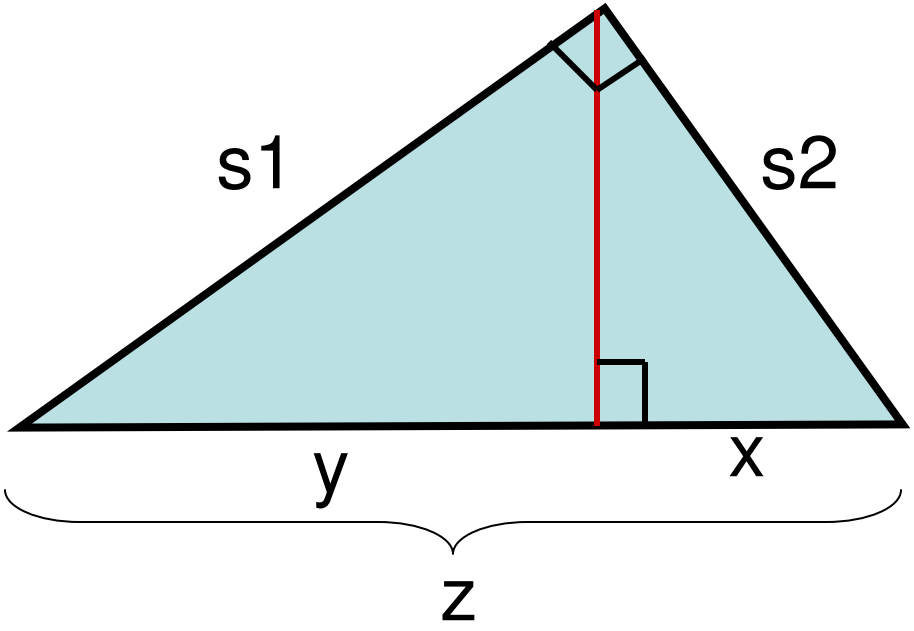


Corollary 2: _____

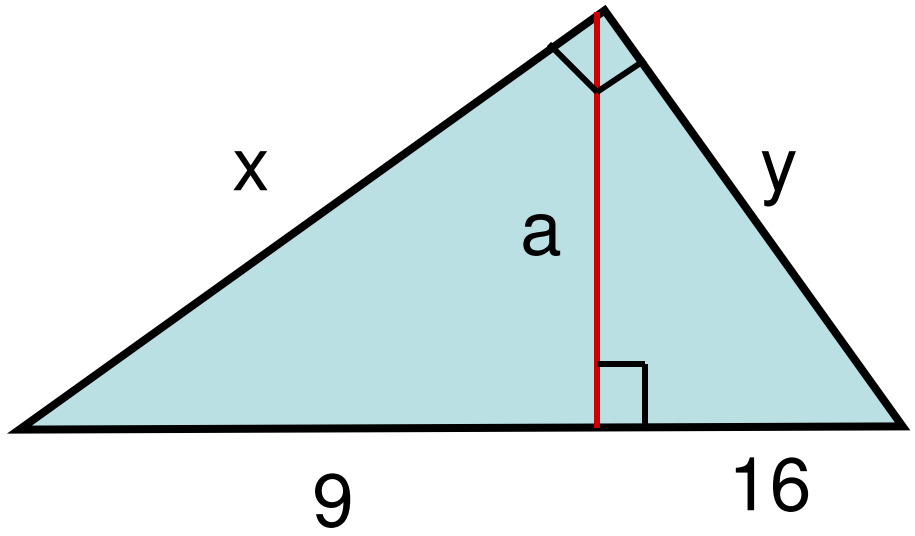
_____

_____

_____



Solve for x, y and a:



$\frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{\quad}{\quad} = \frac{\quad}{\quad}$

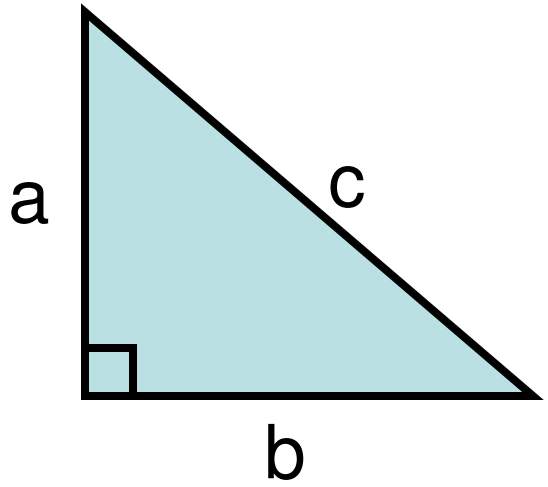
8.2

Pythagorean Theorem

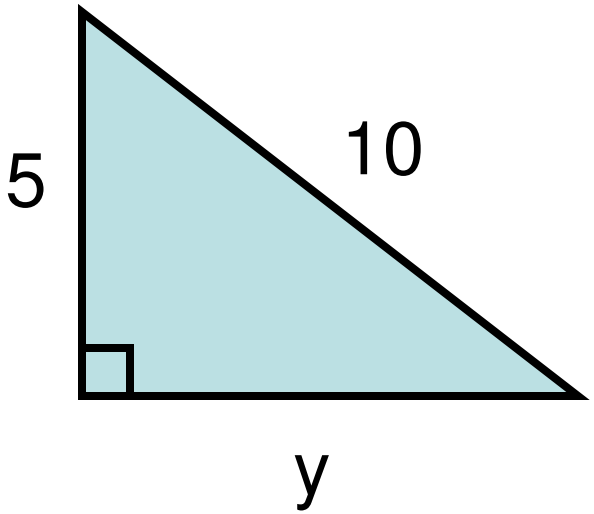
Theorem 8.2: _____

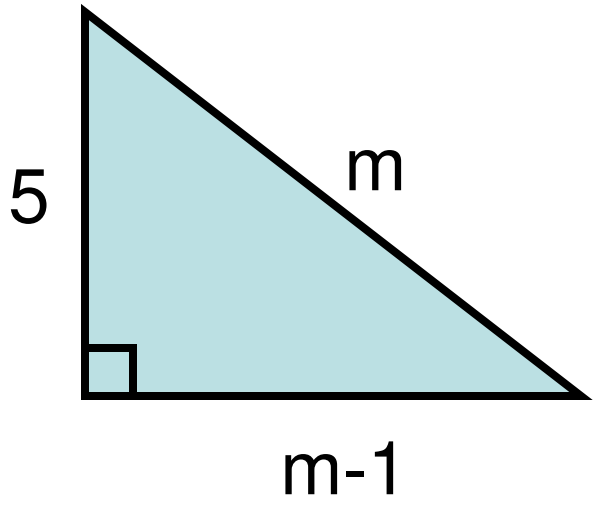
_____

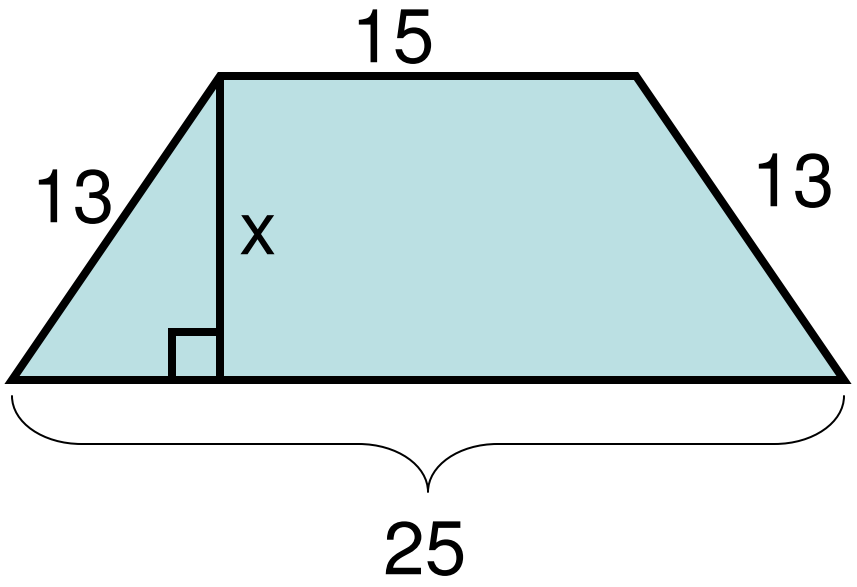
_____



Examples:






15
13
x
13
25

8.3

Converse of the Pythagorean Theorem

Theorem 8.3: _____

_____

_____

_____

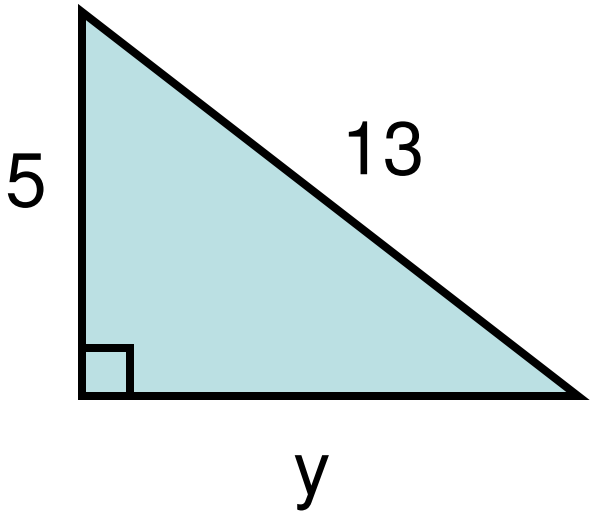
There are a lot of standard families of right triangles.

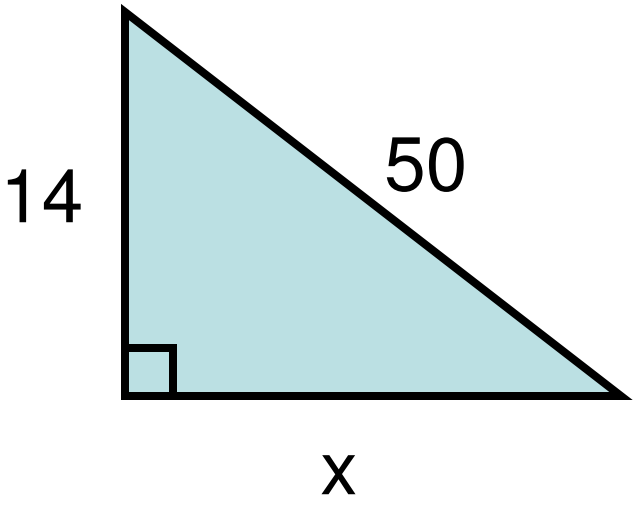
Make your life easier and memorize the head of each family.

3, 4, 5 **5, 12, 13** **8, 15, 17** **7, 24, 25**

Memorize the Read ones!!

Examples:





What happens if it is not a right triangle?

- _____

_____

- _____

If $c^2 > a^2 + b^2$ then triangle is _____

If $c^2 < a^2 + b^2$ then triangle is _____

Examples: Tell what kind of Triangle.

1. 5, 9, 14
2. 20, 21, 29
3. 20, 21, 30
4. 5, 6, 8
5. 6, 7 ,8

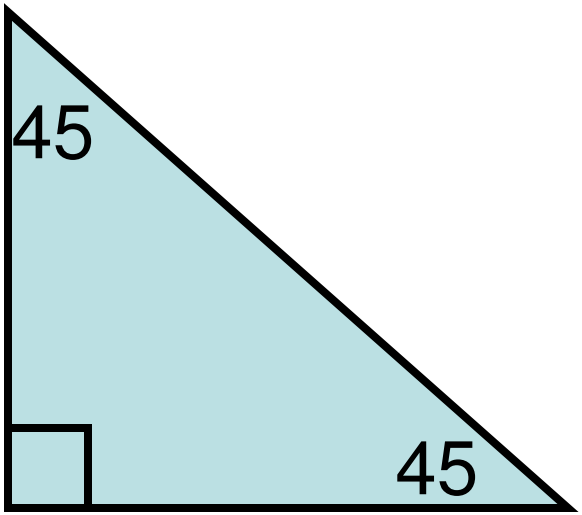
8.4

Special Right Triangles

Theorem 8.6: _____

_____

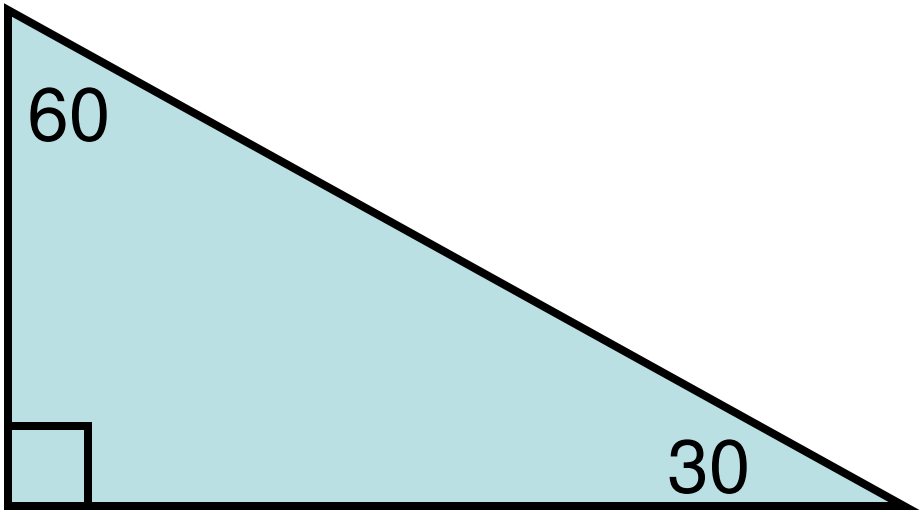
_____



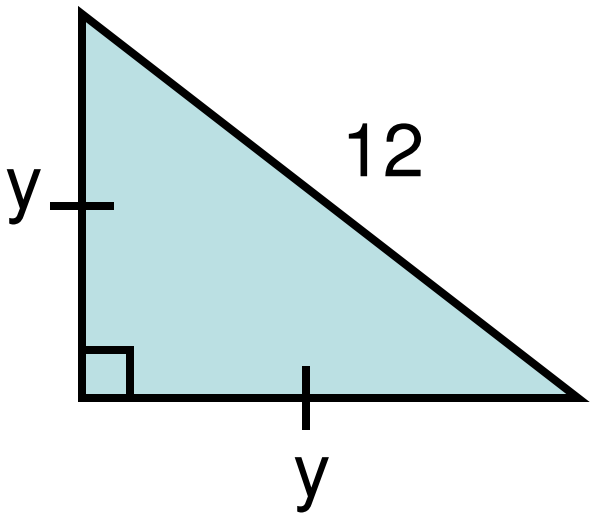
Theorem 8.7: _____

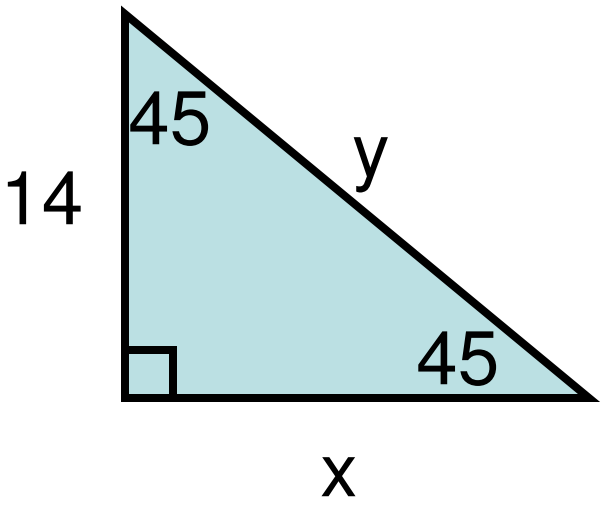
_____

_____

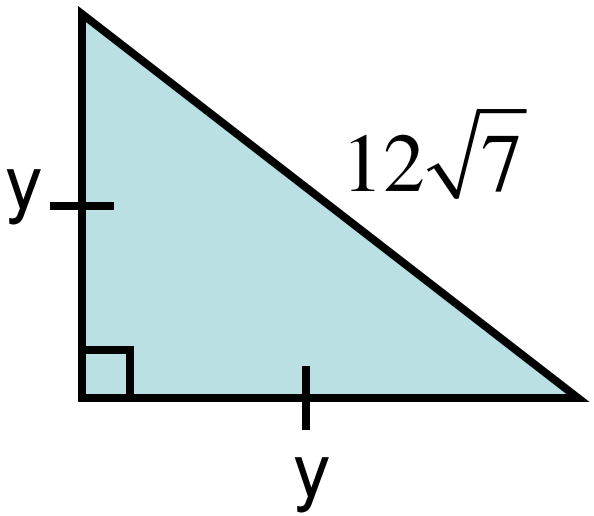


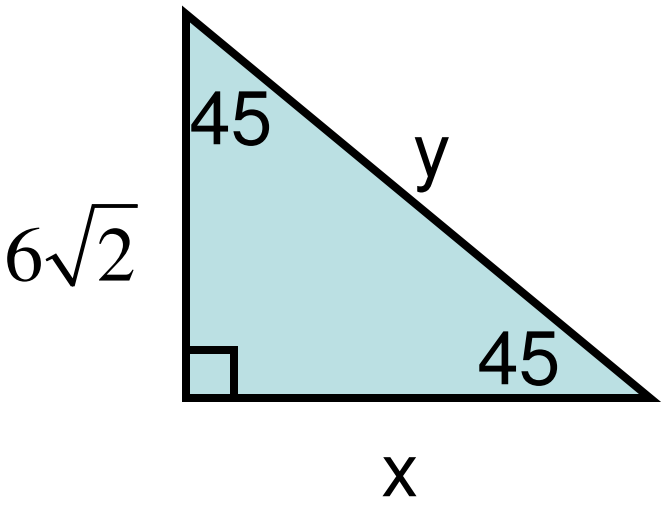
Examples:



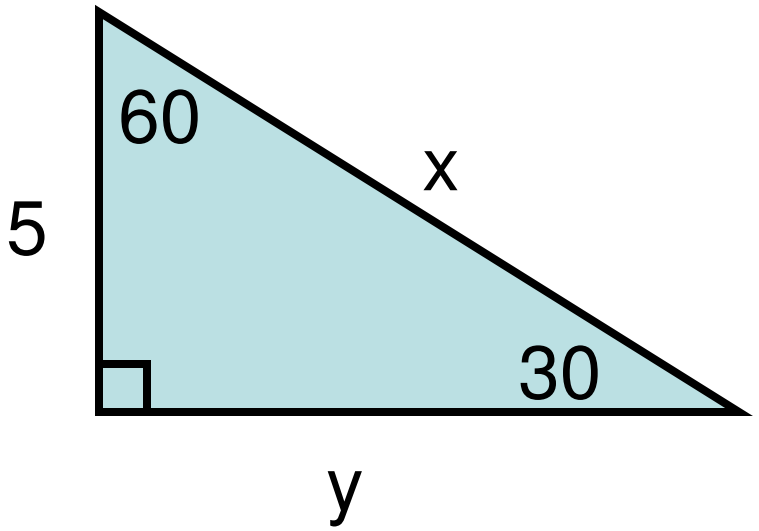


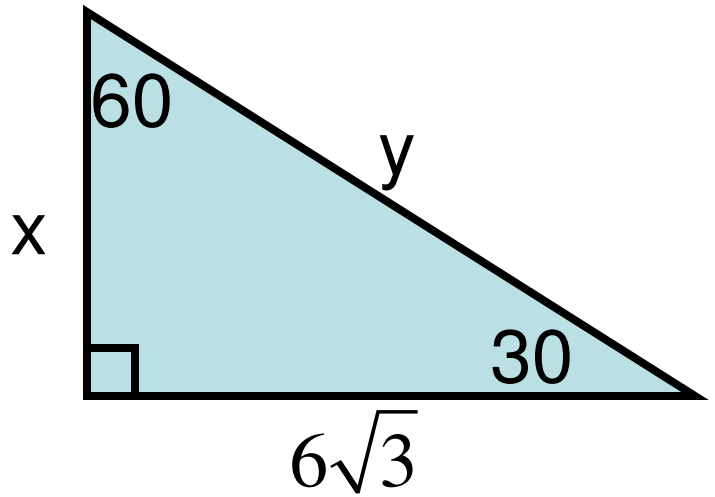
Examples:



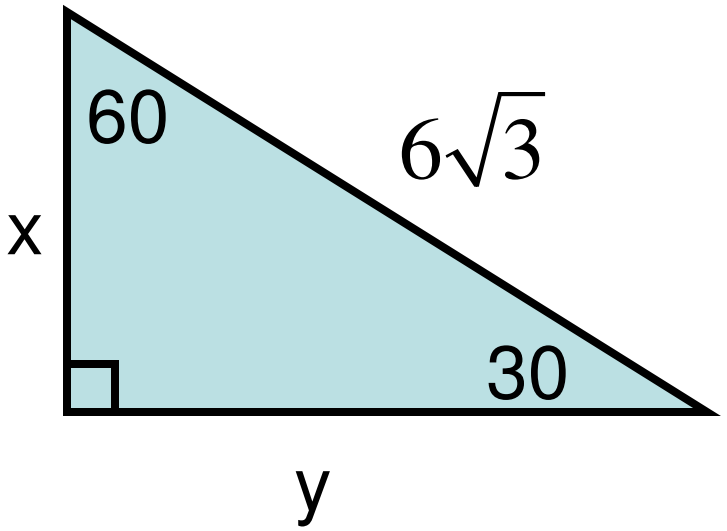


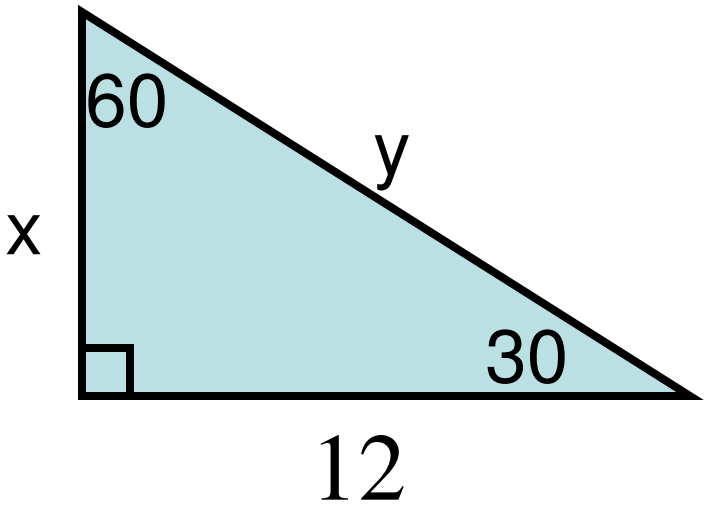
Examples:



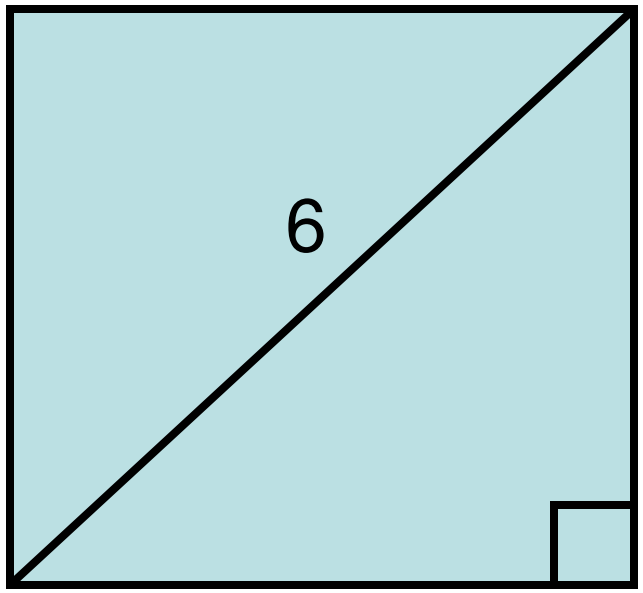


Examples:





The diagonal of a square is 6 find the perimeter of the square.



The perimeter of an Equilateral triangle is 30, find the length of an altitude.