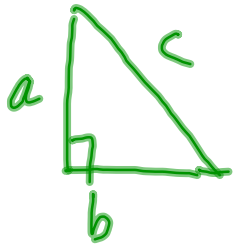
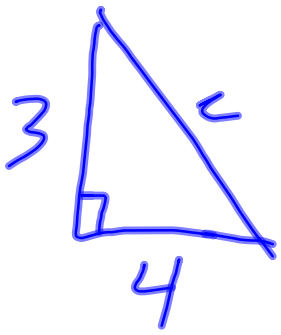
Pythagorean Theorem

* Only applies to a right triangle.

* Hypotenuse - the side opposite the right angle ("c")



$a^2+b^2=c^2$



$3^2+4^2=c^2$

$9+16=c^2$

$25=c^2$

$\sqrt{25}=\sqrt{c^2}$

$5=c$

This is c^2, you need c so take $\sqrt{\ }$

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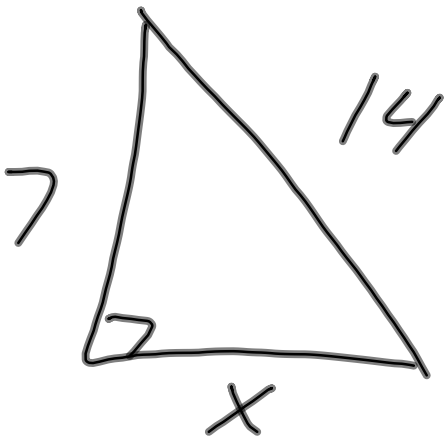

Converse of the Pythagorean Theorem

If the sum of the squares of 2 sides of a triangle equal the square of the longest side then the triangle is a right triangle.

Is $\triangle PQR$ a right triangle?

$P(3, 2)$

$Q(-3, 6)$

$R(5, 5)$

Pythagorean Triple

3 whole #s that work in $a^2+b^2=c^2$

$3^2+4^2=5^2$

12^2

Would these measures be a right triangle

(a) 8, 15, 16

(b) 20, 48, 52

(c) $\frac{\sqrt{3}}{5}, \frac{\sqrt{6}}{5}, \frac{3}{5}$

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