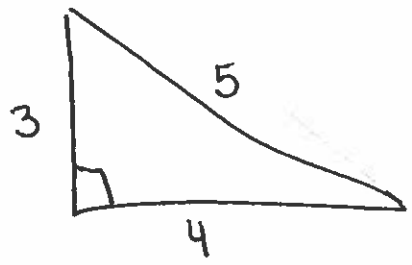
Recall

Pythagorean Theorem

* The sum of the squares of the legs of a right triangle is equal to the square of the hypotenuse.

* Recall that the hypotenuse is the longest side and it is opposite the right angle

* We usually let c be the hypotenuse and say that: $a^2 + b^2 = c^2$

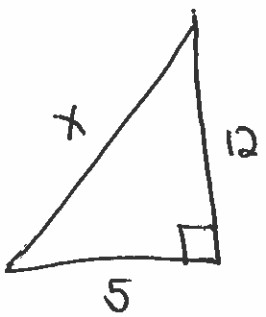


$3^2 + 4^2 = 5^2$

$9 + 16 = 25$

$25 = 25$

Find x



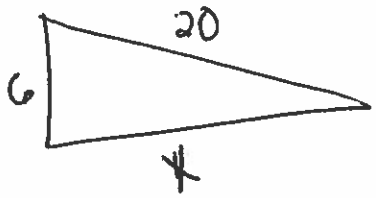
$5^2 + 12^2 = x^2$

$25 + 144 = x^2$

$169 = x^2$

$\sqrt{169} = x$

$13 = x$



$x^2 + 6^2 = 20^2$

$x^2 + 36 = 400$

$x^2 = 364$

$x = \sqrt{364}$

$x \approx 19.08$