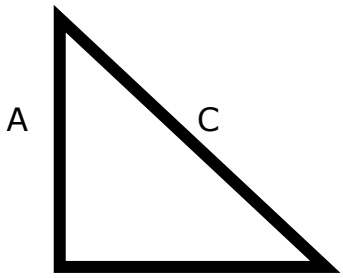
Name _____ Date _____

Pythagorean Theorem On Coordinate Systems - Guided Lesson Explanation

Explanation#1

Step1) First we have to see what we have to find out.



Step 2) To use Pythagorean theorem we count the distance of legs A and B to find the hypotenuse C.

For A, count the up-down (y) distance between the points: 4

For B, count the left-right (x) distance between the points: 4

Now using those two measures we can ultimately find the value of C.

Step 3) $a^2 + b^2 = c^2$

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

$16 + 16 = c^2$

$32 = c^2$

$\sqrt{32} = c$

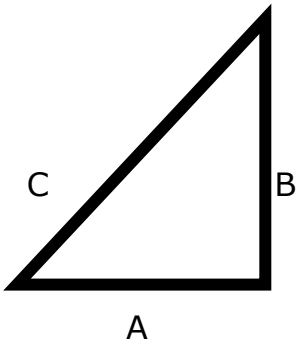
$c = 5.65$

Explanation#2

Step 1) First we have to see what we have to find out.

Count the left-right (x) distance between the points: 7

Count the up-down (y) distance between the points: 8



A = 8 B = 7

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

$7^2 + 8^2 = c^2$

$49 + 64 = c^2$

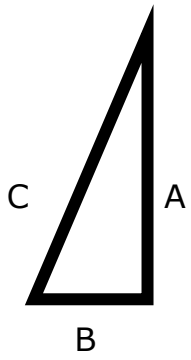
$113 = c^2$

$\sqrt{113} = c$

$c = 10.63$

Explanation#3

Step 1) There is a much different orientation for our triangle this time.



The horizontal length would be the difference between the Xs. In this case: -3 and -5. This is 2 units.

The distance between 5 and -5 is the vertical length. This would be 10.

Horizontal length: 2

Vertical length: 10

Step3) $a^2 + b^2 = c^2$

$10^2 + 2^2 = c^2$

$100 + 4 = c^2$

$104 = c^2$

$\sqrt{104} = c$ $c = 10.2$