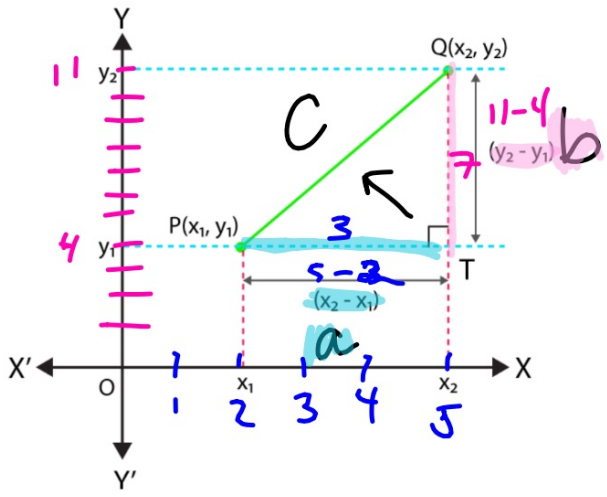
Distance Formula Derivation

Let $P(x_1, y_1)$ and $Q(x_2, y_2)$ be the coordinates of two points on the coordinate plane.



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

By Pythagoras's Theorem,

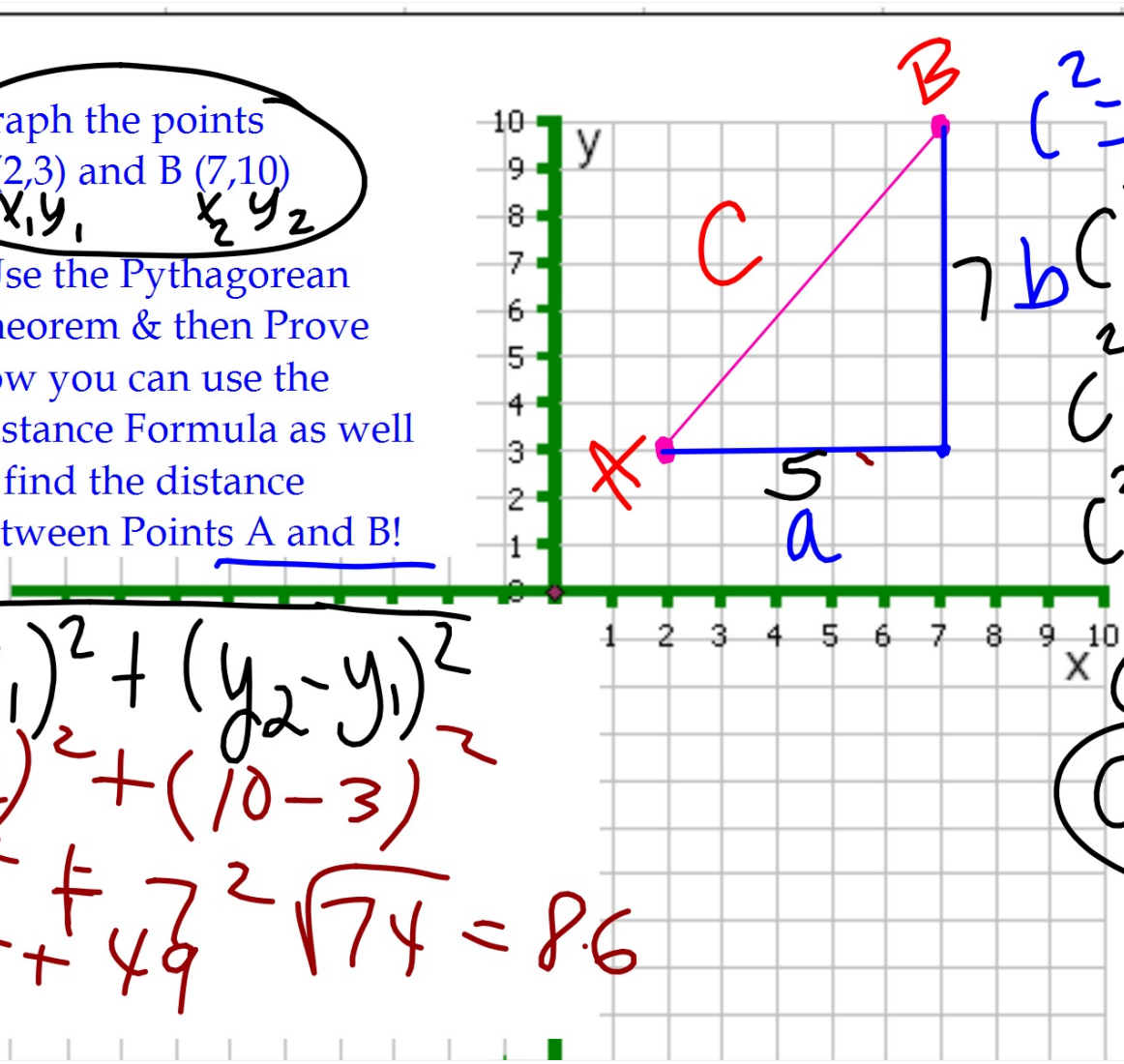
$PQ^2 = PT^2 + QT^2$

$PQ^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$

$PQ = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Graph the points
A(2,3) and B (7,10)
x_1, y_1 x_2, y_2

*Use the Pythagorean Theorem & then Prove how you can use the Distance Formula as well to find the distance between Points A and B!



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

$c^2 = 5^2$

$c^2 = 25$

$c^2 =$

$c = \sqrt{}$

$c = 8.6$

$(x_2 - x_1)^2 + (y_2 - y_1)^2$

$(7-2)^2 + (10-3)^2$

$5^2 + 7^2$

$25 + 49$

$\sqrt{74} = 8.6$