

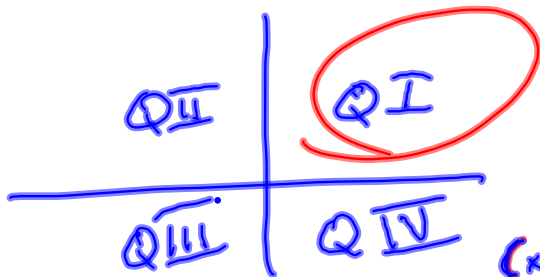
$$\sqrt{c^2} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

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

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

Assume distance is positive

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



Distance between $P_1 = (x_1, y_1) = (2, 5)$ & $P_2 = (x_2, y_2) = (-3, 2)$

I II

$$D(P_1, P_2) = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$= \sqrt{(-3 - 2)^2 + (2 - 5)^2}$$

$$= \sqrt{(-5)^2 + (-3)^2}$$

$$= \sqrt{25 + 9}$$

$$= \sqrt{25} + \sqrt{9} \quad \text{No}$$

$$= 5 + 3 \quad \text{No}$$

$$= 8$$

$\sqrt{34}$ is as far as you can go.

Sum of square roots is NOT the square root of the sum.