VECTORS

What you'll Learn About

- Two Dimensional Vectors/Vector Operations/Unit Vectors
- Direction Angle/Applications of Vectors

Magnitude – length

$= \sqrt{(-2)^2+(-2)^2} = \sqrt{8}$

$PQ = \langle -2, -2 \rangle$

Component Form

$\langle \text{Terminal}_x - \text{Initial}_x, \text{Terminal}_y - \text{Initial}_y \rangle$

* Find the component form and magnitude of the vector where P = (-3,4), Q = (-5, 2), R = (-1, 3) and S = (4, 7)

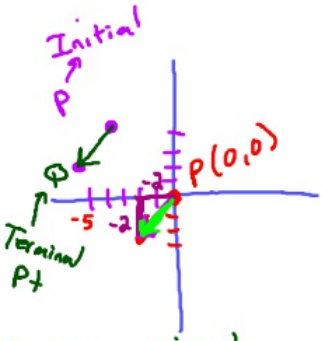
Initial Terminal

$R(-1,3)$ $S(4,7)$

A) $\vec{PQ}$

A) $\overrightarrow{PQ}$

Vector PQ



component form: move initial point to the origin

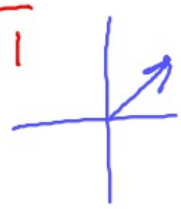
B) $\vec{RS}$

$\overrightarrow{RS} = \langle 4-(-1), 7-3 \rangle$

$= \langle 5, 4 \rangle$

$|RS| = \sqrt{5^2+4^2}$

$= \sqrt{41}$



C) $3\vec{QS}$

D) $2\vec{QR} + \vec{PS}$