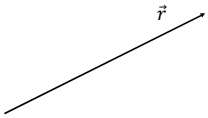
Review of vectors and vector components

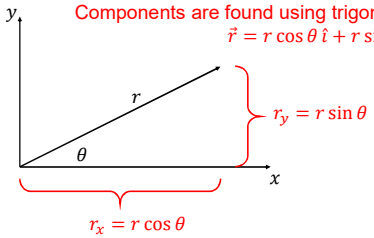


Review of vectors and vector components

If the magnitude r and direction θ relative to x-axis are provided:

Components are found using trigonometric functions.

$$\vec{r} = r\cos\theta\,\hat{\imath} + r\sin\theta\,\hat{\jmath}$$



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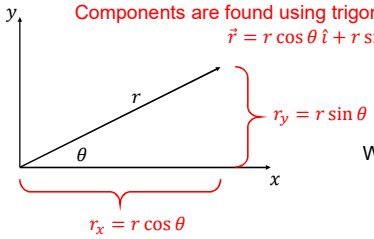


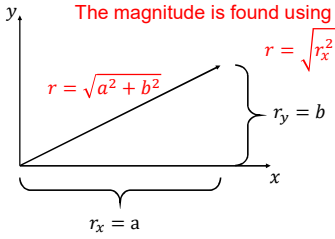
What about the unit vector $\hat{r}$?

Review of vectors and vector components

If the components r_x and r_y are provided:

The magnitude is found using the Pythagorean Theorem.

$$r = \sqrt{r_x^2 + r_y^2}$$

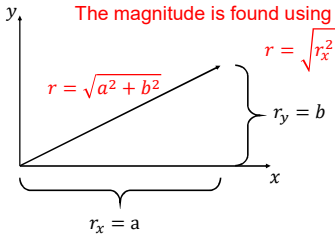


Review of vectors and vector components

If the components r_x and r_y are provided, for example, $\vec{r} = a\hat{\imath} + b\hat{\jmath}$:

The magnitude is found using the Pythagorean Theorem.

$$r = \sqrt{r_x^2 + r_y^2}$$



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