

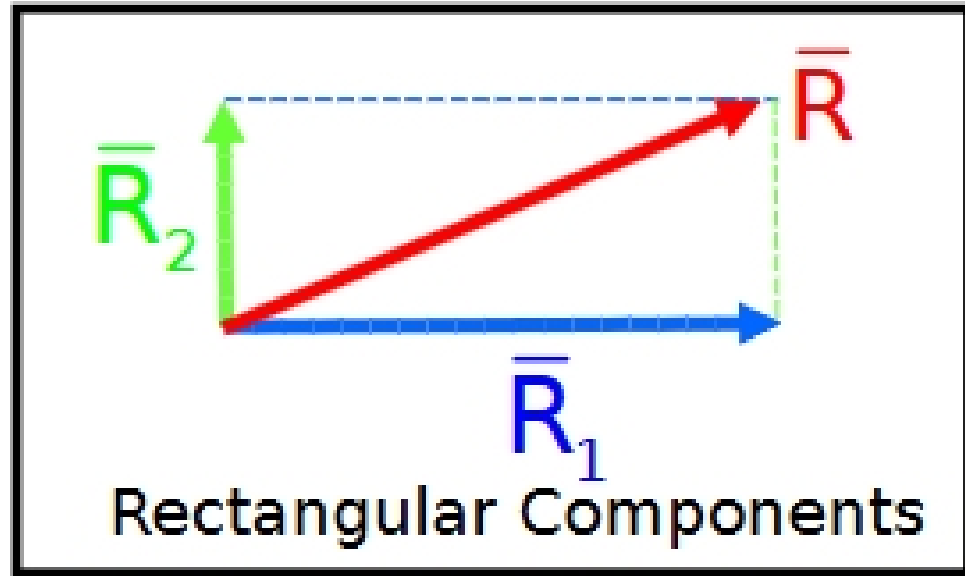
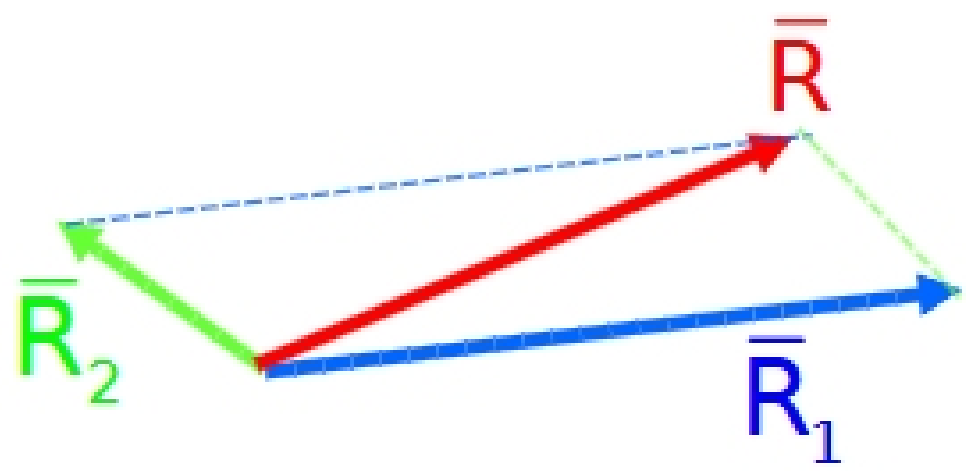
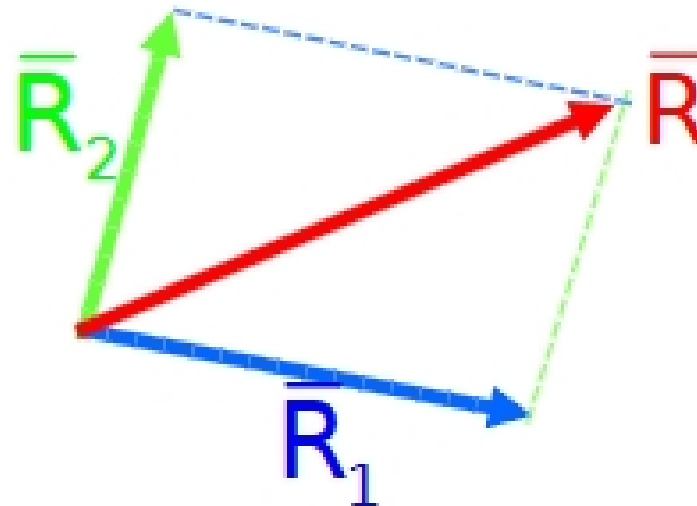
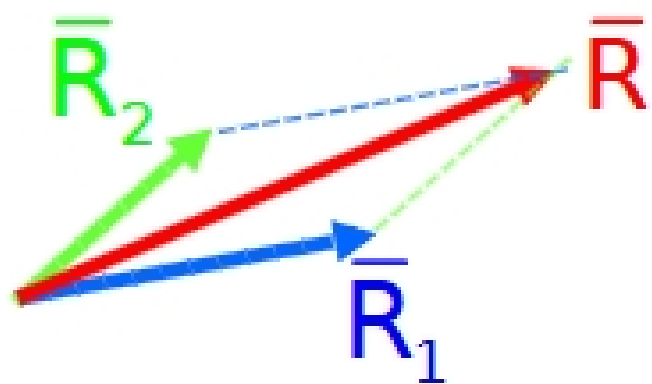
# Review of 2-D vectors

- Rectangular Components in 2-D
- Unit Vectors
- Resultants using Rect. Components
- Equilibrium of a Particle
- Free-Body Diagrams of Particle in 2-D
- Newton's First Law

# Resolving a Vector into Components

Four of the infinite set of components of the vector

$\vec{R}$



# Rectangular Components

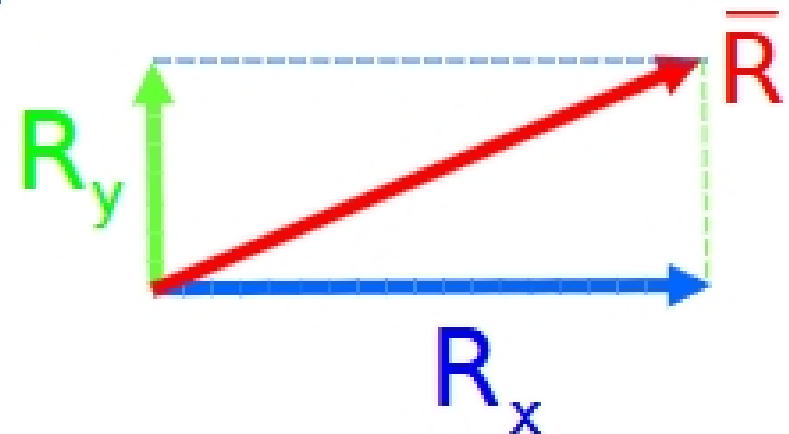
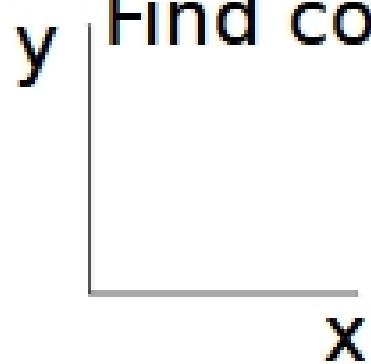
This is the most useful approach for defining components and for finding resultants.

Set up rectangular (or orthogonal) coordinate system:

Name axes, say "x" and "y".

Show positive directions.

Find components in x and y coordinate directions.



Note: Since directions are defined, we denote components  $R_x$  and  $R_y$  as **magnitudes** only (i.e. no