

Physics 121 – September 4, 2009

Office Hours: Thur 10:30-12:00
Wkmn 309 Fri 1:00-2:30

Assignments:

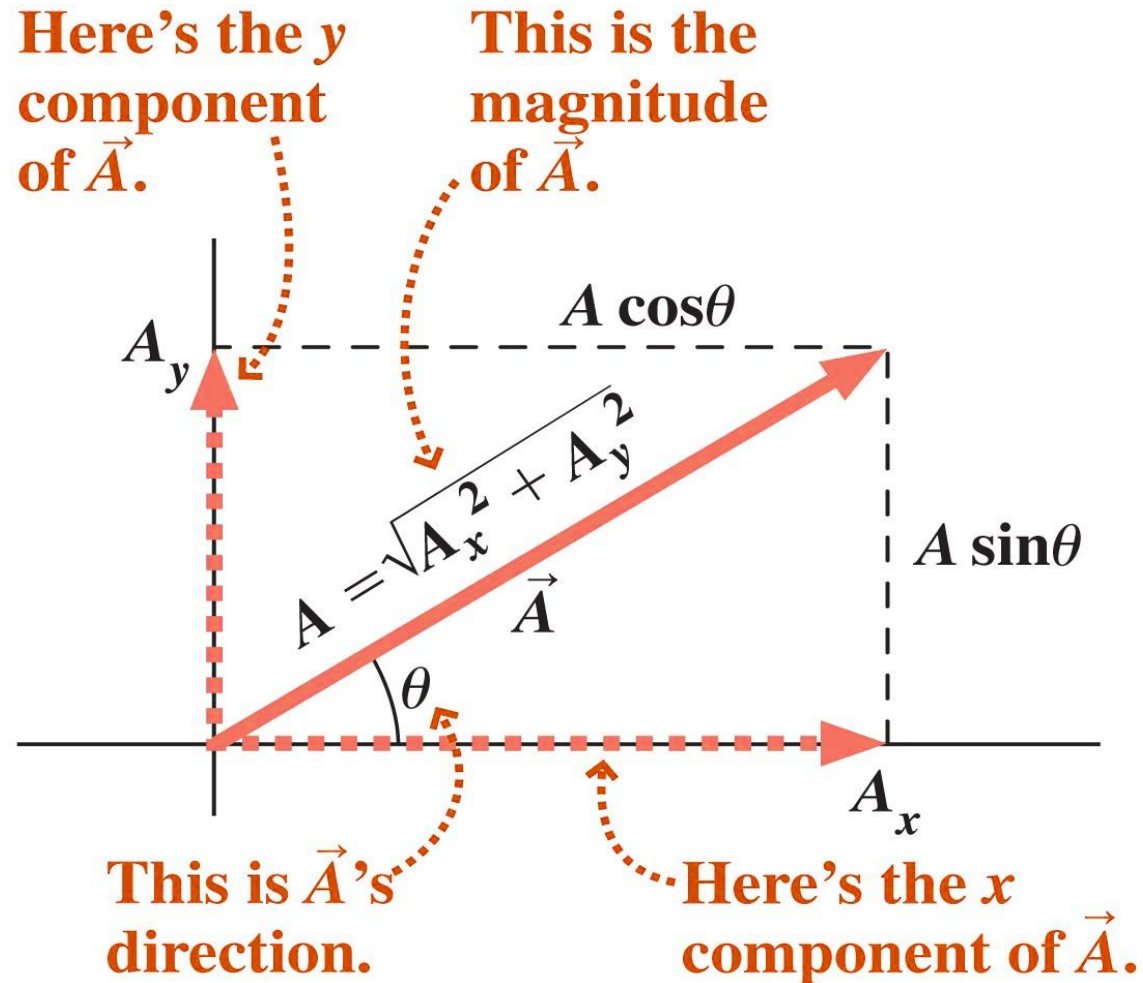
Today:

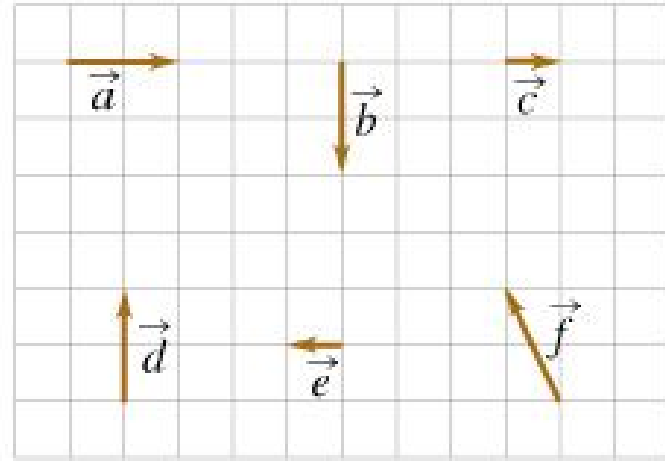
- Homework/recitation problems due:
Chapter 2 - #45,46,53,55,56,59,63,71
- Chap 3 – vectors and 2-D motion
- Mastering Physics Assignment 2 due by
Sunday, Sept 6 @ 11pm.

Next week:

- Homework problems due Friday Sept 11
- Chap 3, # 31, 38, 40, 49, 59, 63, 75, 77

Vector components – examples of magnitude, direction, x-component, y-component





Consider the vectors shown above. Which combination has the largest magnitude?

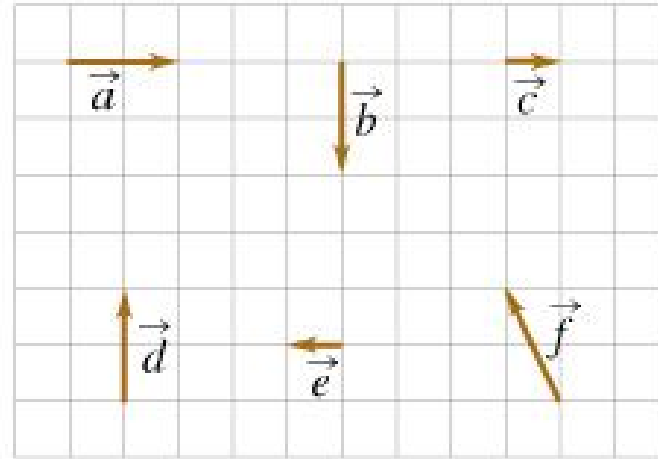
A $\vec{f} + \vec{c}$

B $\vec{a} + \vec{b}$

C $\vec{a} + \vec{c}$

D $\vec{a} + \vec{d}$

E $\vec{a} + \vec{e}$



Consider the vectors shown above. Which combination has the largest magnitude?

A $\vec{f} + \vec{c}$ $\sqrt{(-1+1)^2 + (2+0)^2} = 2$

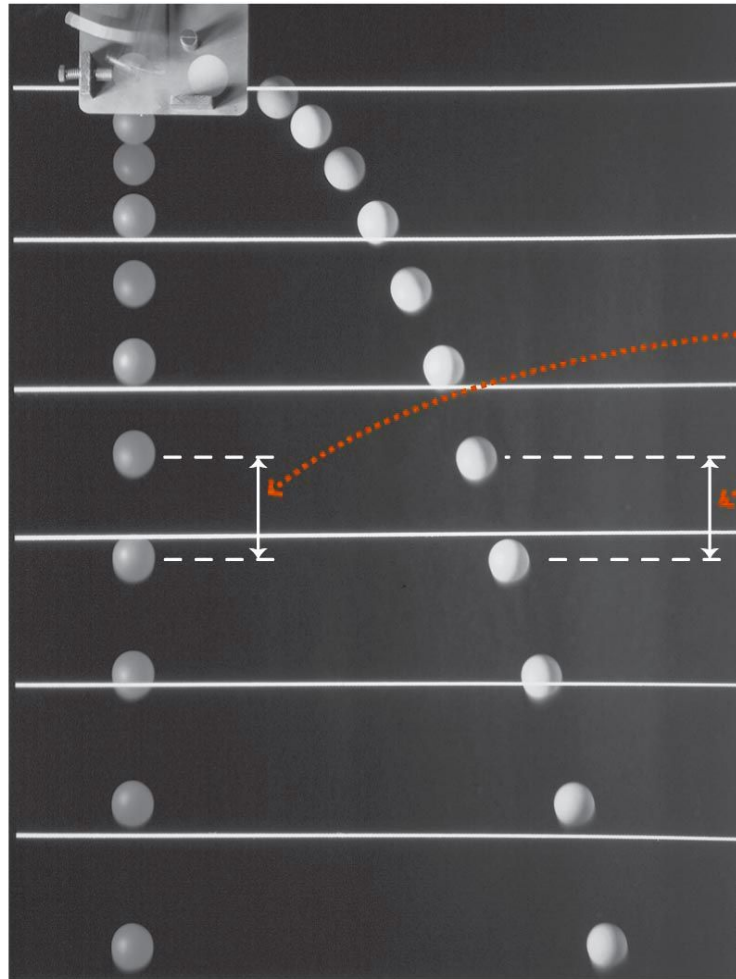
B $\vec{a} + \vec{b}$ $\sqrt{(2+0)^2 + (0-2)^2} = \sqrt{8}$

C $\vec{a} + \vec{c}$ $\sqrt{(2+1)^2 + (0+0)^2} = 3$

D $\vec{a} + \vec{d}$ $\sqrt{(2+0)^2 + (0+2)^2} = \sqrt{8}$

E $\vec{a} + \vec{e}$ $\sqrt{(2-1)^2 + (0+0)^2} = 1$

2-D motion (x,y) with constant acceleration in the y-direction



Vertical spacing is the same, showing that vertical and horizontal motion are independent.

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Projectile motion!

Projectile motion using vectors:

- 2-D motion in x-y plane
- Velocity and acceleration vectors
- Vector components

