HW 8: due "past" Monday, 3/24, will not be counted to your HW score.
You are still encouraged to work on HW 8.

HW 9 is due 3/31, Monday,
and will be counted toward your HW score.

New schedule for Physics Learning Center (401 Tiernan):
http://web.njit.edu/~kenahn/08spring/phy105.htm

Work and Energy

Kinetic energy in 1D, 2D, 3D

Work in 1D

Work-Energy Theorem

Work in 2D, 3D & Dot product

Last class…

(examples for work in 2D)

Today…

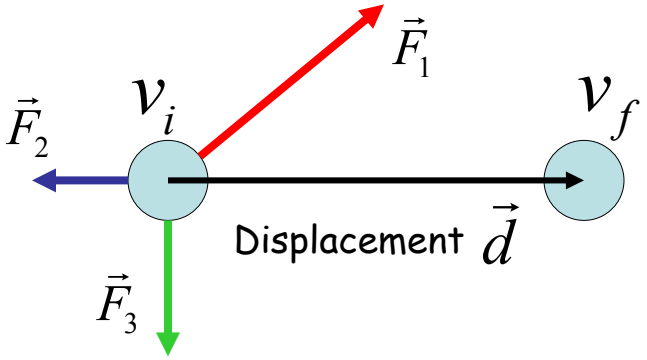
Work with multiple forces on a single object

Examples for work in 2D

Example 1: Forces along different directions

Example 2: Work, scalar product, angle

Work with multiple forces on a single object



$$W_{net} = \vec{F}_{net} \bullet \vec{d} = (\vec{F}_1 + \vec{F}_2 + \vec{F}_3 + \ldots) \bullet \vec{d}$$

$$= \vec{F}_1 \bullet \vec{d} + \vec{F}_2 \bullet \vec{d} + \vec{F}_3 \bullet \vec{d} + \ldots = W_1 + W_2 + W_3 + \ldots$$

$$= K_f - K_i = \frac{1}{2} m v_f^2 - \frac{1}{2} m v_i^2$$

Example 3: Multiple forces on a box