

# Advanced Math

6-4

(Day 2)

## Vectors: Components and Work

Work -

$$\text{Work} = \text{Force} \cdot \text{distance}$$

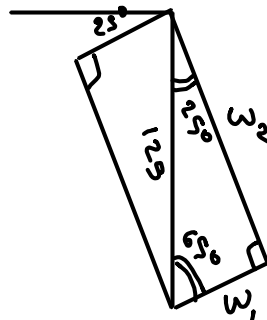
Common units of work are foot-pounds or Newton-meters.

Magnitude of Force Parallel

$$52.83 \cdot 12 = 633.96 \text{ Ft}\cdot\text{lbs}$$

- \*2) Calculate the work in pushing a wheelbarrow filled with 125 lbs of concrete up a ramp at  $25^\circ$  from the horizontal and 12 feet in length

Proj (Parallel)



$$\cos 65^\circ = \frac{\|w_1\|}{125}$$

$$52.83 = \|w_1\|$$
$$52.83 \text{ lbs}$$

Assignment:  
pg. 553  
43, 44,  
47-52 all.