

Work and Power

Work & Power

Objectives

Define & calculate work and power.

Identify appropriate units for work and power.



Weight	#	Time	Dist	Work	Power
20 N	10				
20 N	10				
50 N	5				
100 N	---				

Work

force acting through a distance

$$W = f \cdot d$$

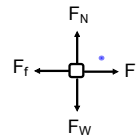
Unit: N-m or Joules (J)



Work

force must be in the same dimension as work

- vertical work from gravity
- horizontal work from friction



Power

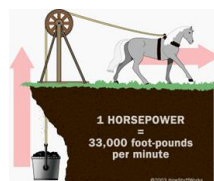
rate at which work is done

$$P = \frac{W}{t}$$

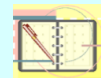
Unit: J/s or Watts (W)

$$750 \text{ W} = 1 \text{ hp}$$

$$1 \text{ hp} = 550 \text{ ft.lb/s}$$



Assignments . . .



- Begin Chapter 8 Homework # 1 - 5

