Chapter 6 - Work + Energy

- $W = F_{||} \Delta d$
- $W = F \Delta d \cos\theta$
- When no work is done.
- Work = area (F-d graph)
- $W = \Delta E$ (Work-Energy Theorem)

- Kinetic Energy: $E_k = \frac{1}{2}mv^2$
- Grav Potential Energy: $E_g = mgh$
- Elastic Potential Energy: $E_e = \frac{1}{2}kx^2$

Hooke's Law: $F_a = kx$

- Power: $P = \frac{W}{\Delta t}$ (units: $\frac{J}{s} = \underline{\underline{W}}att$)
- Efficiency: $\text{Efficiency} = \frac{E_o}{E_I} \times 100\%$

Sean

$F_g = 900\,N$

$\Delta t = 1.85\,s$

$\Delta d = 8 \times 18.5\,cm = 1.48\,m$

$W = F_{||} \Delta d$

$W = (900\,N)(1.48\,m)$

$W = 1332\,J$

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

$P = \frac{1332\,J}{1.85\,s}$

$P = 720\,W$

Michaela

$F_g = 530\,N$

$\Delta t = 1.91\,s$

$\Delta d = 1.48\,m$

$W = F_{||} \Delta d$

$W = (530\,N)(1.48\,m)$

$W = 784.4\,J$

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

$P = \frac{784.4\,J}{1.91\,s}$

$P = 410\,W$

TO DO

① Make Sure <u>All</u> PP done in Chapter 6.

② Review: p276 | 23-28, 30-33