

$$W = F \times D$$

(newtons) (meters) = J

N M

Power

$$\frac{\text{Work}}{\text{Time}} = \frac{\text{J}}{\text{sec.}} = \frac{\text{Nm}}{\text{s}} \text{ or } \text{W}$$

W

$$F =$$

$$\Delta =$$

$$85 \text{ lbs} / .45 = 189 \text{ N}$$

$$.2 \text{ m}$$

$$37.7 \text{ J per stair}$$

$$(37.7) \text{ J} \times (17) \text{ STAIRS} = \frac{642.2}{20 \text{ sec.}} \text{ J}$$

$$\text{Watts} = \underline{32} \text{ W}$$

1st Law: inertia - moving stays moving
 moving stays in motion forever.

2nd Law: $F = MA$ $F = 1\text{kg} \left(7\frac{\text{m}}{\text{s}^2}\right)$
 7N

3rd Law: $MV_b = MV_a$

momentum: $\frac{\text{kg m}}{\text{s}}$

work: force \times distance IMA:
ideal

