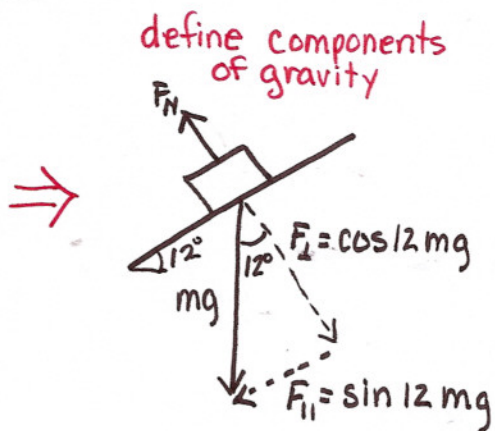
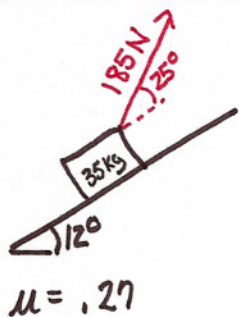
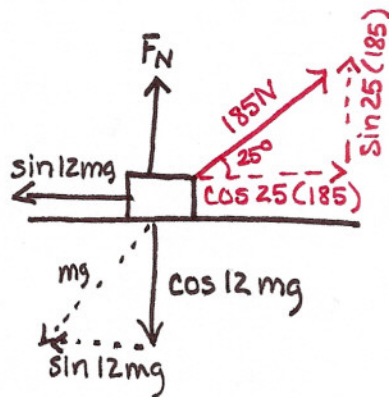


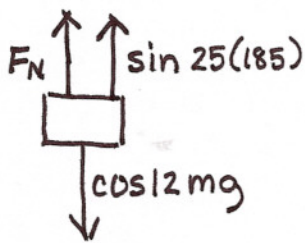
WHAT WE KNOW:



rotate



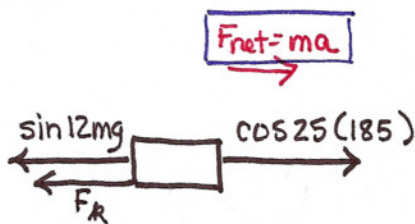
FREE BODY DIAGRAMS



vertical

$$F_N + \sin 25(185) = \cos 12 mg$$

$$F_N = \cos 12 mg - \sin 25(185)$$



horizontal

$$F_{net} = F_A - F_R$$

$$ma = \cos 25(185) - [F_R + \sin 12 mg]$$

$$F_f = \mu F_N$$

$$F_f = \mu(mg - \sin 25(185)) \Rightarrow ma = \cos 25(185) - [(\mu(mg - \sin 25(185))) + (\sin 12 mg)]$$

$$35(a) = \cos 25(185) - [(.27[(35)(9.81) - \sin 25(185)]) + (\sin 12(35)(9.81))]$$

$$a = .77 \text{ m/s}^2 \text{ up the ramp}$$

Formulas used: $F_{net} = ma$ $F_{net} = F_A - F_R$ $\mu = \frac{F_f}{F_N}$