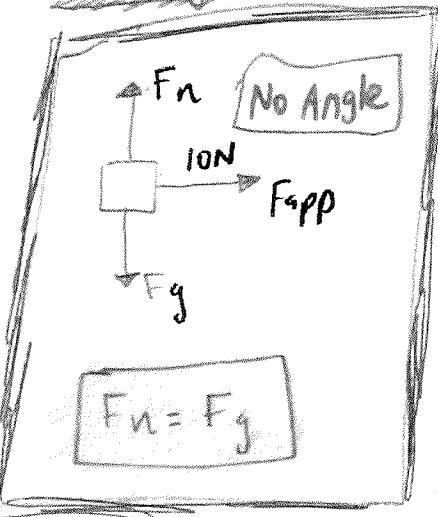
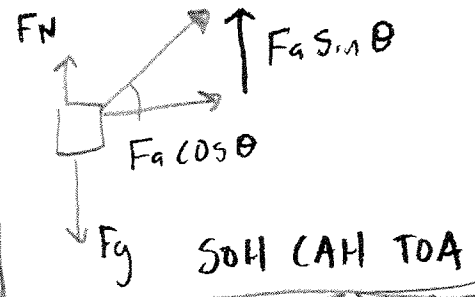
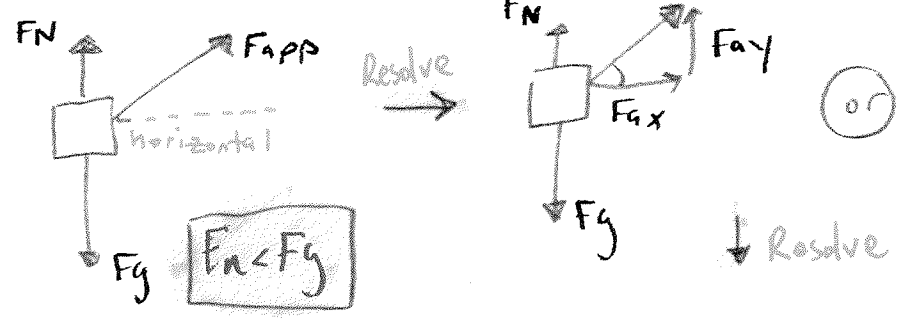


Resolving Forces



Angle

What if an applied force is at an angle above the horizontal?



Calculating F_g & F_n

Without angles (Practice #1)

1. Draw the Free-Body Diagram

- a. Label Forces
- b. Place Mass inside box

Calculate F_g $F_g = m \cdot g$

mass multiplied by 9.8 m/s^2



$F_g = 75 \text{ kg} (9.8 \text{ m/s}^2) = 735 \text{ N}$

Determine F_n

- a. Net Force = 0
- b. Therefore $F_g = F_n$

$F_g = F_n = 735 \text{ N}$

No Angles
 $F_n = F_g$

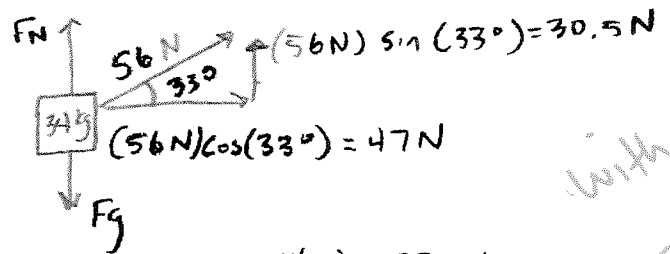
With angles (Practice #2)

Draw the Free-Body Diagram

- a. Include force at angle

Calculate F_g $F_g = m \cdot g$

Mass multiplied by 9.8 m/s^2



$F_g = 34 \text{ kg} (9.8 \text{ m/s}^2) = 333 \text{ N}$

With Angles
 $F_n \neq F_g$
Not Equal

Calculate Components of force at an angle:

Redraw diagram with components (no forces at angles)

Calculate F_n

$F_n + F_{s \cdot \sin} = F_g$

$F_n + 30.5 \text{ N} = 333 \text{ N}$

