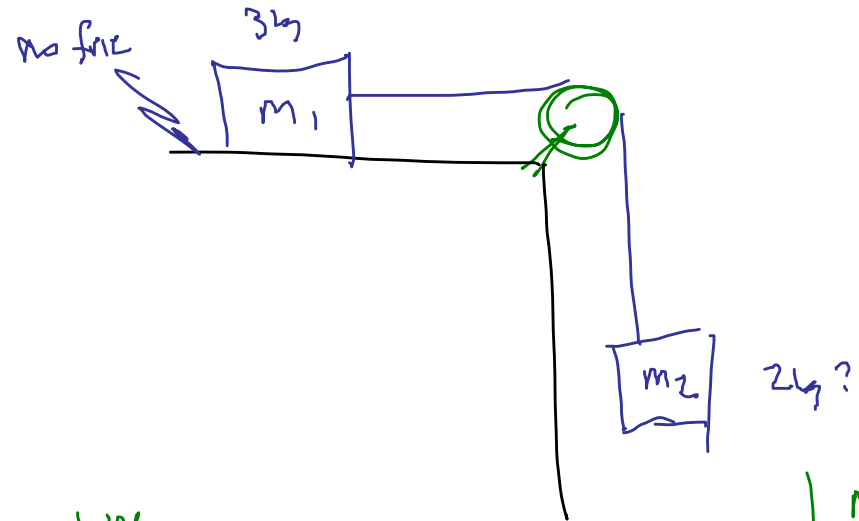


# Finish Example



$$T = m_1 a$$

$$m_2 g - T = m_2 a$$

Do algebra. Add the eqns

$$m_2 g = m_1 a + m_2 a$$

unk  
 $T, a$

Find  $a$

$$m_2 g = (m_1 + m_2) a$$

$$a = \frac{m_2 g}{(m_1 + m_2)}$$

$$\left. \begin{array}{l} m_2 = 0 \\ m_1 \\ a = 0 \end{array} \right\}$$

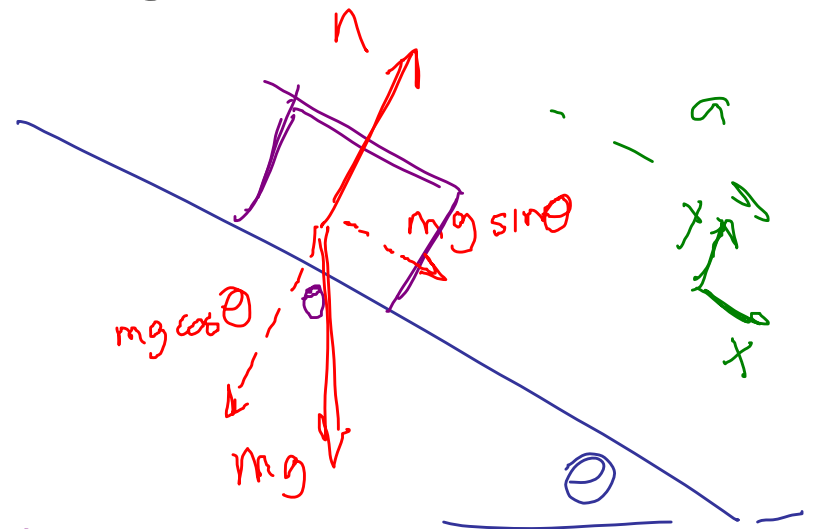
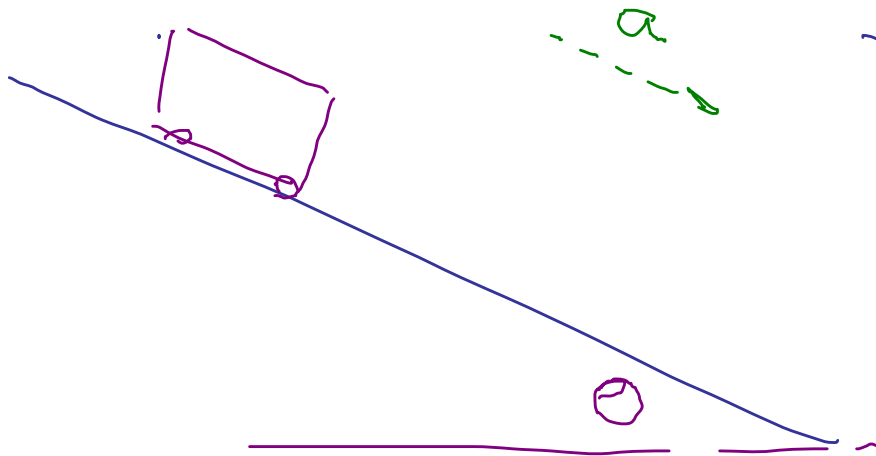
$$\left. \begin{array}{l} m_1 = 0 \\ m_2 \end{array} \right\}$$

$$\left. \begin{array}{l} a = \frac{m_2 g}{(0 + m_2)} \\ = g \end{array} \right\}$$

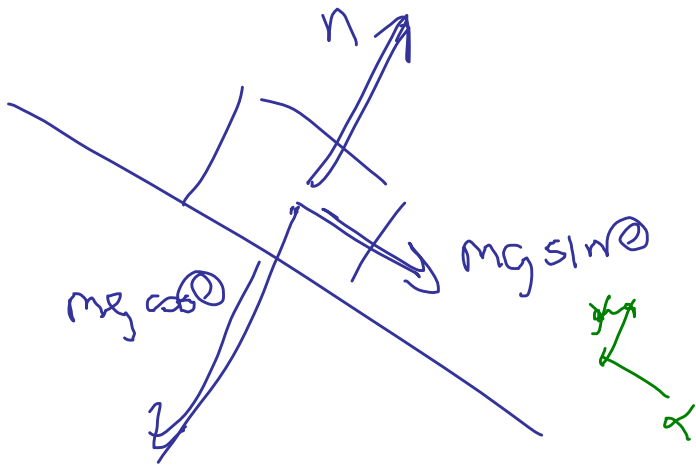
$$T = m_1 a = \frac{m_1 m_2 g}{(m_1 + m_2)}$$

$$m_1 = 3 \text{ kg} \quad m_2 = 2 \text{ kg} \quad \text{Plug in.}$$

Frictionless Inclined Plane



Want x,y components of grav.



$$a_x = g \sin \theta$$

$F_y$ 's cancel:

$$n = mg \cos \theta$$

$$F_x = \cancel{mg \sin \theta} = \cancel{ma_x}$$

Makes sense