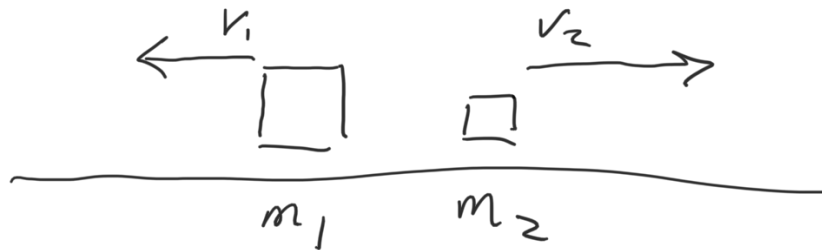


Problem 11.51

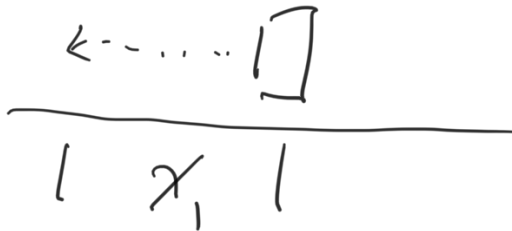


$P = 0$ originally

$$m_1 v_1 = m_2 v_2 \quad \text{equal and opposite}$$

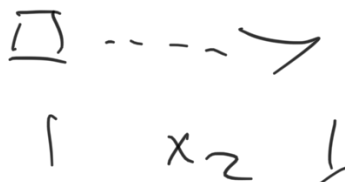
$$\gamma = \frac{m_1}{m_2} = \frac{v_2}{v_1}$$

gives us ratio of v 's



$$\frac{1}{2} m_1 v_1^2 = \mu m_1 g \cdot x_1$$

initial kinetic Fric



$$\frac{1}{2} m_2 v_2^2 = \mu m_2 g \cdot x_2$$

$$\frac{v_1^2}{v_2^2} = \frac{x_1}{x_2}$$

algebra from then





if no energy

accel const

$$x=0 \text{ at } t=0$$

$$v=0 \text{ at } t=0$$

$$x = \frac{1}{2} a t^2 \quad \checkmark$$

$$v = a t \quad \checkmark$$

$$v^2 = 2 a x$$

$$\frac{1}{2} m v^2 = \underbrace{m a x}_{F x}$$

kinetic

