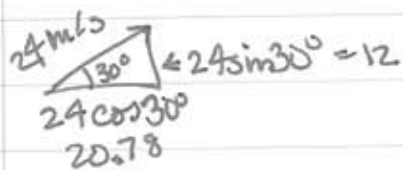


HW-12-6



At top of projectile motion Velocity is horizontal only

Collision

Before

$$M_{\text{Marceles}} V_{\text{Marceles}} + M_{\text{Tina}} V_{\text{Tina}}$$

$$70(20.78) + 50(0)$$

$$= 1454.6$$

$$\text{After } (M_{\text{Marceles}} + M_{\text{Tina}}) V_{\text{together}}$$

$$= 120 V_{\text{To}}_g$$

$$1454.6 = 120 V_{\text{To}}_g$$

$$V_{\text{To}}_g = 12.12 \text{ m/s}$$

vertical

$$V_y = V_{0y} + at$$

$$\uparrow \text{initial } 12 \quad 0 = 12 - 9.8t \Rightarrow t = 1.224$$

\uparrow highest height - velocity zero

horizontal position of trapeze

$$x = x_0 + v_{0x}t \quad x = 0 + 20.78(1.224)$$

$$x = 25.43$$

position of net

$$x = x_0 + v_{0x}t \quad x = 25.43 + 12.12(1.224)$$

$$\underline{40.26 \text{ m}}$$

} same time up & down