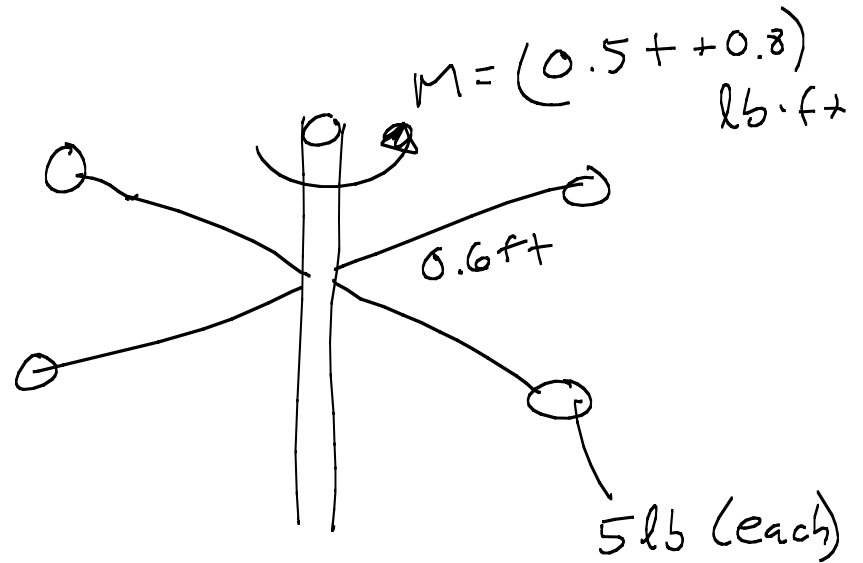


Problem 3

Determine

The speed of the spheres after 4 seconds if they start from rest



$$(H_z)_1 + \sum \int_{t_1}^{t_2} M_z dt = (H_z)_2$$

$$0 + \int_0^4 (0.5t + 0.8) dt = (0.6 \text{ ft}) \left(\frac{5 \text{ lb}}{32.2 \text{ ft/s}^2} \right) (4) v_2$$
$$\left[0.25t^2 + 0.8t \right]_0^4 = (0.6) \left(\frac{5}{32.2} \right) 4 v_2$$

$$v_2 = 19.3 \text{ ft/s}$$