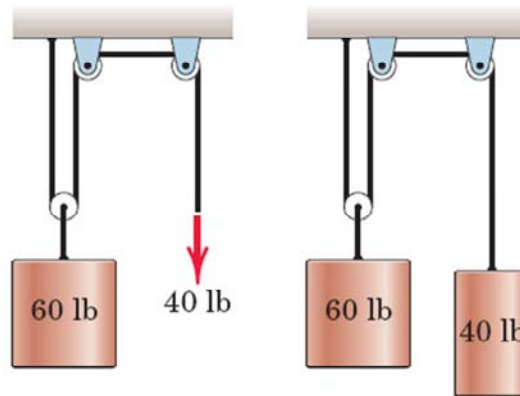


Question of the Day



Determine the vertical **acceleration** of the **60-lb** cylinder for each of the two cases.

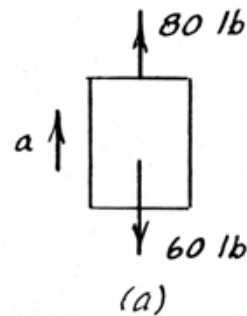
ME 231: Dynamics

3/24

(a) $\Sigma F = ma$:

$$80 - 60 = \frac{60}{32.2} a,$$

$$\underline{a = 10.73 \text{ ft/sec}^2}$$



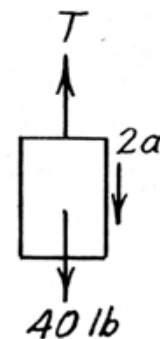
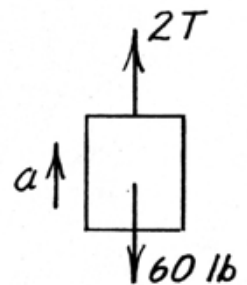
(b) $\Sigma F = ma$:

$$[60\text{-lb}] 2T - 60 = \frac{60}{32.2} a$$

$$[40\text{-lb}] 40 - T = \frac{40}{32.2} (2a)$$

Solve & get $T = 32.7 \text{ lb}$

$$\underline{a = 2.93 \text{ ft/sec}^2}$$



(b)