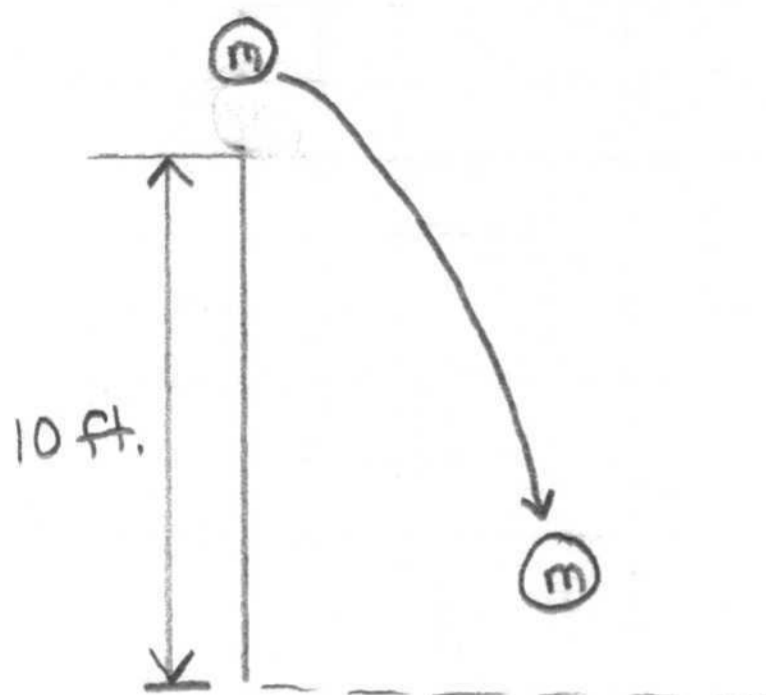


9.37

Given $m = 90 \text{ lbm}$, $h = 10 \text{ ft}$, $g = 32 \text{ ft/s}^2$
 $d = \text{distance to stop} = 1 \text{ ft}$.



Treat the entire body as a particle concentrated at the center of mass.

a) Total distance = 10 feet

b) $\Delta PE = mgh = 90 \text{ lbm} (32 \text{ ft/s}^2) (10 \text{ ft})$
 $= \boxed{28,800 \text{ lb-ft}}$

c) All of this work must be absorbed.

$\therefore \boxed{W = 28,800 \text{ lb-ft}}$

d) $W = Fd$, so $F = W/d = 28,800 \text{ lb-ft} / 1 \text{ ft}$

$\therefore \boxed{\begin{aligned} F &= 28,800 \text{ lbs} \\ &= mgh/d \\ &= 10mg = 10Wt \end{aligned}}$