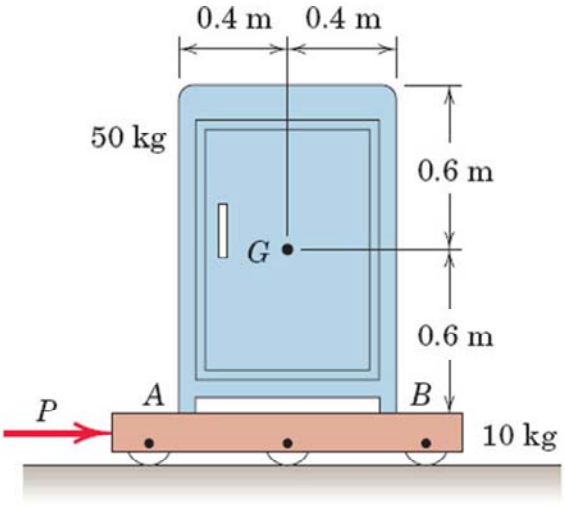
Rigid-Body Translation: Another Exercise



Determine the value of the ***force P*** which would cause the cabinet to begin to tip.

What ***coefficient of static friction*** is necessary to ensure tipping occurs without slipping?

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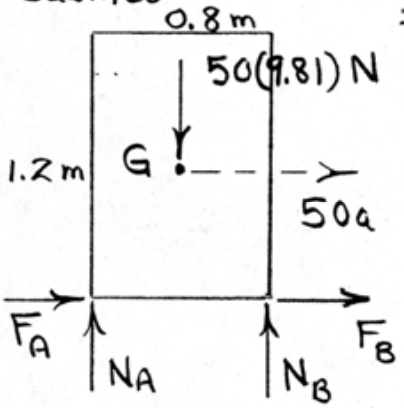
Cabinet:



$N_B \& F_B \to 0$ when tipping impends

$\circlearrowright \sum M_A = ma_d$: $mg(0.4) = ma(0.6)$

$a = \frac{2}{3}g$ or $6.54\ m/s^2$

As a whole: $\rightarrow \sum F = ma$

$P = 60(6.54) = \underline{392\ N}$

$\mu_s > \frac{a}{g} = \frac{2}{3}$