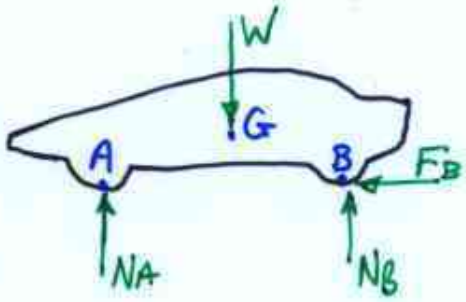
E6

There was an SLIGHTLY easier way to solve problem

Take moments about point A
then $\vec{N}_A$ & $\vec{F}_B$ have zero moment



$$\oplus \sum M_A = m a_G d$$

$$-W(1{\cdot}25) + N_B(2{\cdot}0) = +m a_{Gx}(0{\cdot}3)$$

using ② from before i.e. $N_B = \frac{2000 a_{Gx}}{\mu_k}$

gives $-W(1{\cdot}25) + \left(\frac{2000 a_{Gx}}{\mu_k}\right)(2{\cdot}0) = +(m a_{Gx})(0{\cdot}3)$

$$\Rightarrow a_{Gx} = \frac{W(1{\cdot}25)}{\left[\frac{(2000)(2{\cdot}0)}{\mu_k}\right] - (2000)(0{\cdot}3)} = \frac{(2000)(9{\cdot}81)(1{\cdot}25)}{\frac{(2000)(2{\cdot}0)}{\mu_k} - (2000)(0{\cdot}3)}$$

$$a_{Gx} = 1{\cdot}5925 \ ms^{-2}$$

Note how a_{Gx} is INDEPENDENT of m
(i.e. we have "2000" above & below)

a_{Gx} is a fn of "g" & geometry & μ_k.