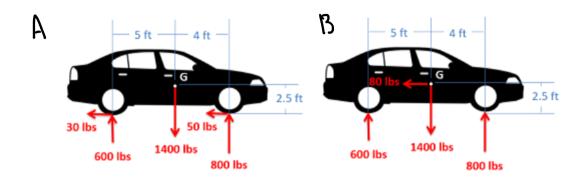
## Problem 3

Two alternate sets of forces are shown on a car. Determine if the two sets of forces are statically equivalent.



A
$$\begin{aligned}
\Sigma F_{X} &= -30 - 50 = -80 \text{ lbs} \\
\Sigma F_{Y} &= (600 + 8000 - 14000 = 0)
\end{aligned}$$

$$\begin{aligned}
\Sigma M_{G} &= (800)(4) - (600)(5) \\
- (50)(2.5) - (30)(2.5) = \boxed{0}
\end{aligned}$$

$$\begin{array}{lll}
\mathcal{E}F_{x} = -\frac{80 \text{ lbs}}{5} \\
\mathcal{E}F_{y} = 600 + 800 - 1400 = 0 \\
\mathcal{E}M_{G} = (800)(4) - (600)(5) \\
&= 200 \text{ ft lbs}
\end{array}$$

The moments are not the same. Therefor the systems are not statically equivaknt.