Svar KSI 18/2 2014

1. Se sid. 33 i boken

2. $\bar{r}_G = \dfrac{m\frac{a}{2}\bar{e}_x + 2m\frac{a}{2}\bar{e}_y + 3m\frac{a}{2}\bar{e}_z}{6m} =$

$\frac{a}{12}\bar{e}_x + \frac{a}{6}\bar{e}_y + \frac{a}{4}\bar{e}_y$

3. $\bar{M}_0 = \bar{r}_1 \times \bar{F}_1 + \bar{r}_2 \times \bar{F}_2 + \bar{r}_3 \times \bar{F}_3 =$

$= (a\bar{e}_x + a\bar{e}_y) \times (-P\bar{e}_x) + (a\bar{e}_y + a\bar{e}_z) \times P\bar{e}_y$

$+ (a\bar{e}_x + a\bar{e}_y + a\bar{e}_z) \times P\bar{e}_z =$

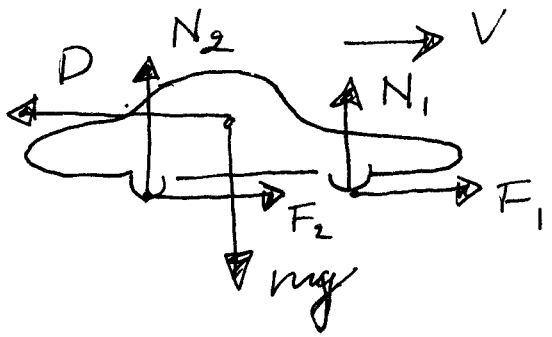
$aP(\bar{e}_z - \bar{e}_x - \bar{e}_y + \bar{e}_x) = aP(-\bar{e}_y + \bar{e}_z)$

b) $\bar{F} = \bar{F}_1 + \bar{F}_2 + \bar{F}_3 = -P\bar{e}_x + P\bar{e}_y + P\bar{e}_z$

$\bar{M}_0 \cdot \bar{F} = aP^2(-1+1) = 0$

$\bar{F} \neq 0$ och $\bar{M}_0 \cdot \bar{F} = 0$ Ja, systemet har en kraftsresultant!

4



5. Se sid. 46 i boken.