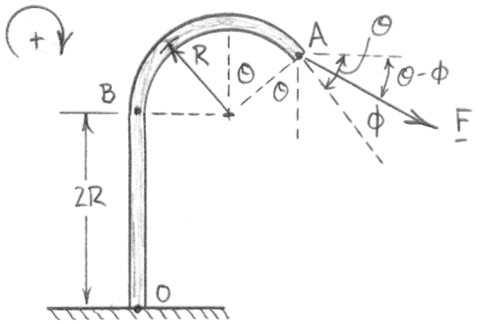
2/43



$$M_B = F\sin(\theta-\phi)(R+R\sin\theta) + F\cos(\theta-\phi)(R\cos\theta)$$

$$\underline{M_B = FR[\cos\phi + \sin(\theta-\phi)]}$$

$$M_O = F\sin(\theta-\phi)(R+R\sin\theta) + F\cos(\theta-\phi)(2R+R\cos\theta)$$

$$\underline{M_O = FR[2\cos(\theta-\phi) + \cos\phi + \sin(\theta-\phi)]}$$

IF $F = 750\ \text{N}$, $R = 2.4\ \text{m}$, $\theta = 30^\circ$, AND $\phi = 15^\circ$...

$$\underline{M_B = 2200\ \text{N·m CW}}$$

$$\underline{M_O = 5680\ \text{N·m CW}}$$