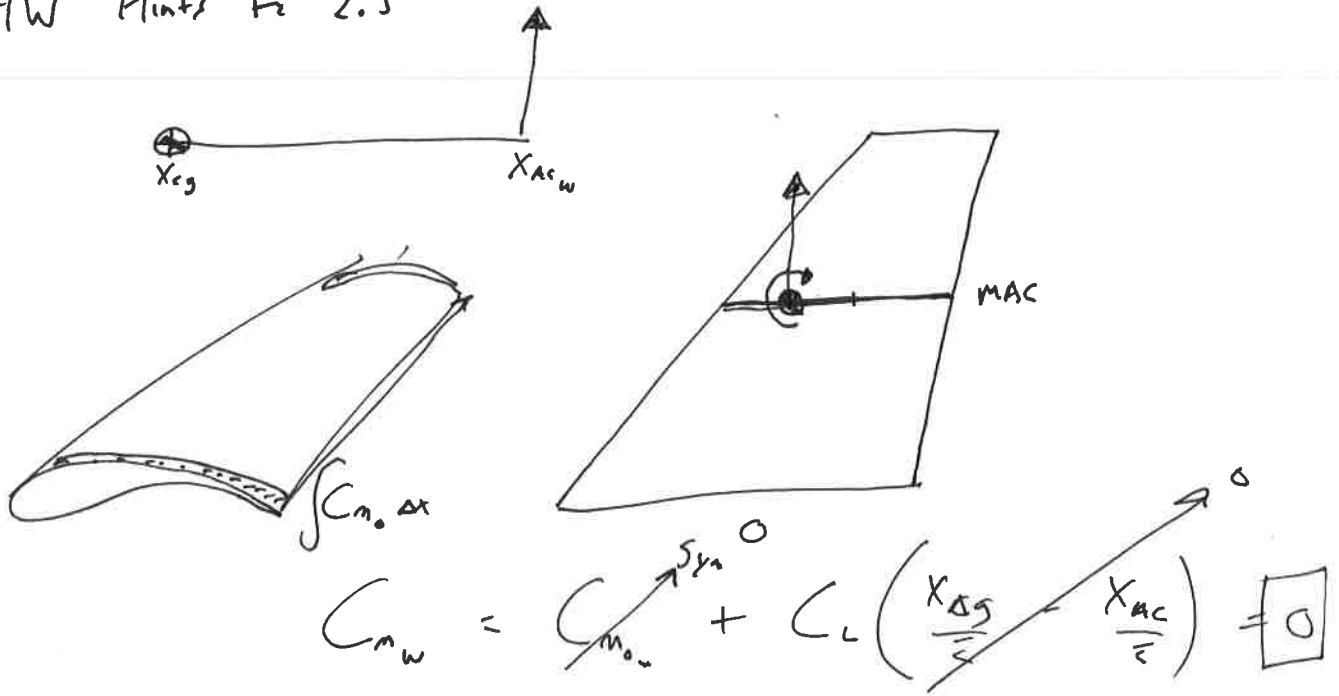


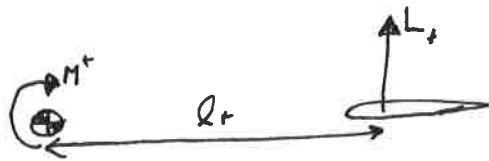
# HW Hints A 2.5

a)

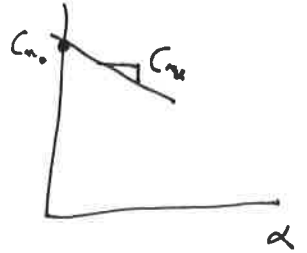


$$C_{m_w} = C_{m_{\alpha}} + C_L \left( \frac{x_{\Delta cg}}{\bar{c}} - \frac{x_{ac}}{\bar{c}} \right) = 0$$

b)



$$M_f = -l_f L_f$$

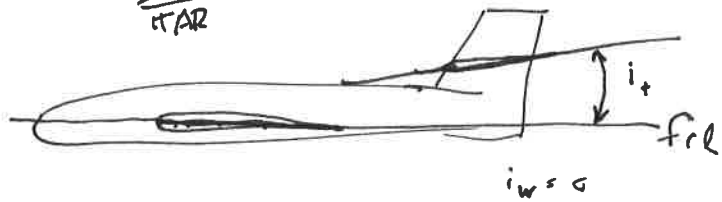


$$C_{m_{\alpha}} = M \sqrt{V_H} C_{L_{\alpha}} (\epsilon_0 + i_w - i_f)$$

$$C_{m_{\alpha}} = -M \sqrt{V_H} C_{L_{\alpha}} \left( 1 - \frac{d\epsilon}{d\alpha} \right)$$

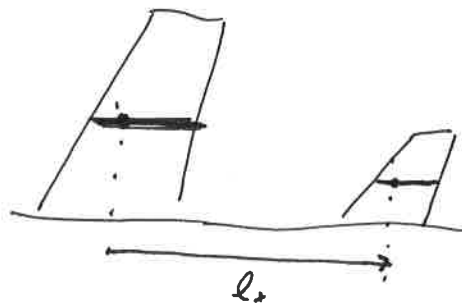
$$\epsilon = \epsilon_0 + \frac{d\epsilon}{d\alpha} \alpha$$

$$\frac{2C_{L_{\alpha}}}{\pi AR}$$



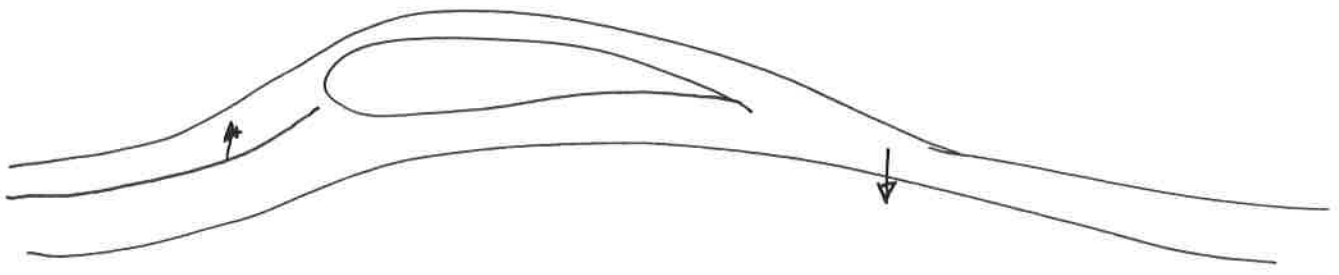
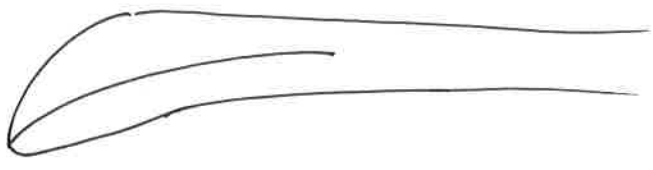
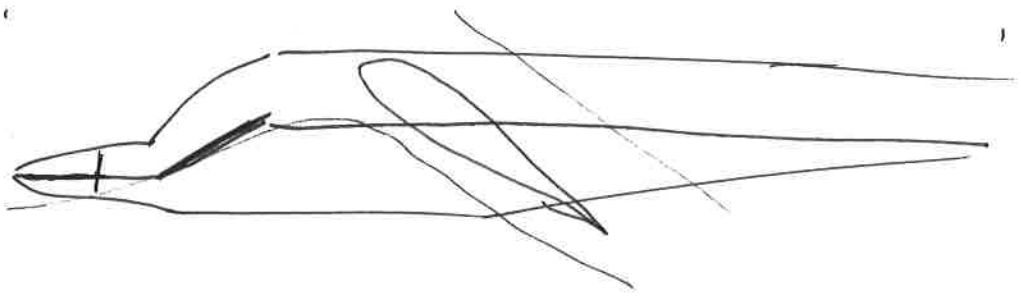
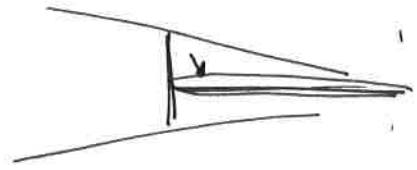
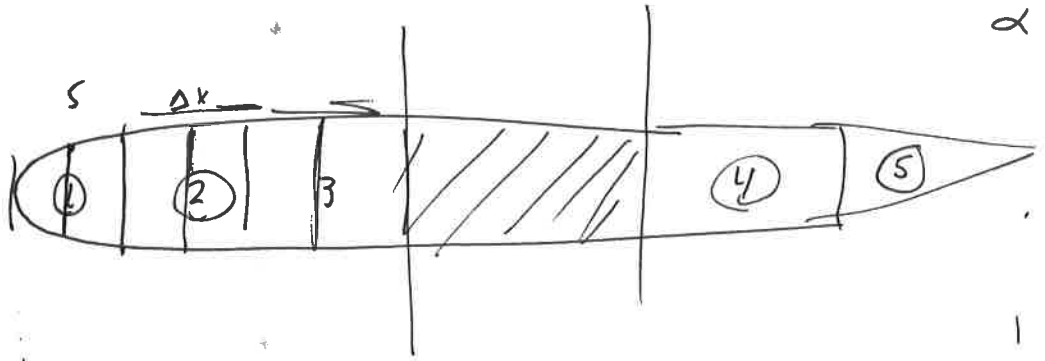
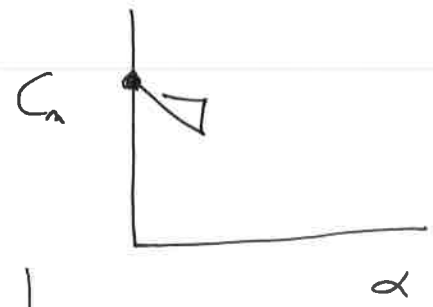
$$C_{L_{\alpha}} \approx \frac{C_{L_{\alpha}}}{1 + \frac{C_{L_{\alpha}}}{\pi AR}}$$

$$\approx \frac{2\pi}{1 + \frac{2}{AR}}$$

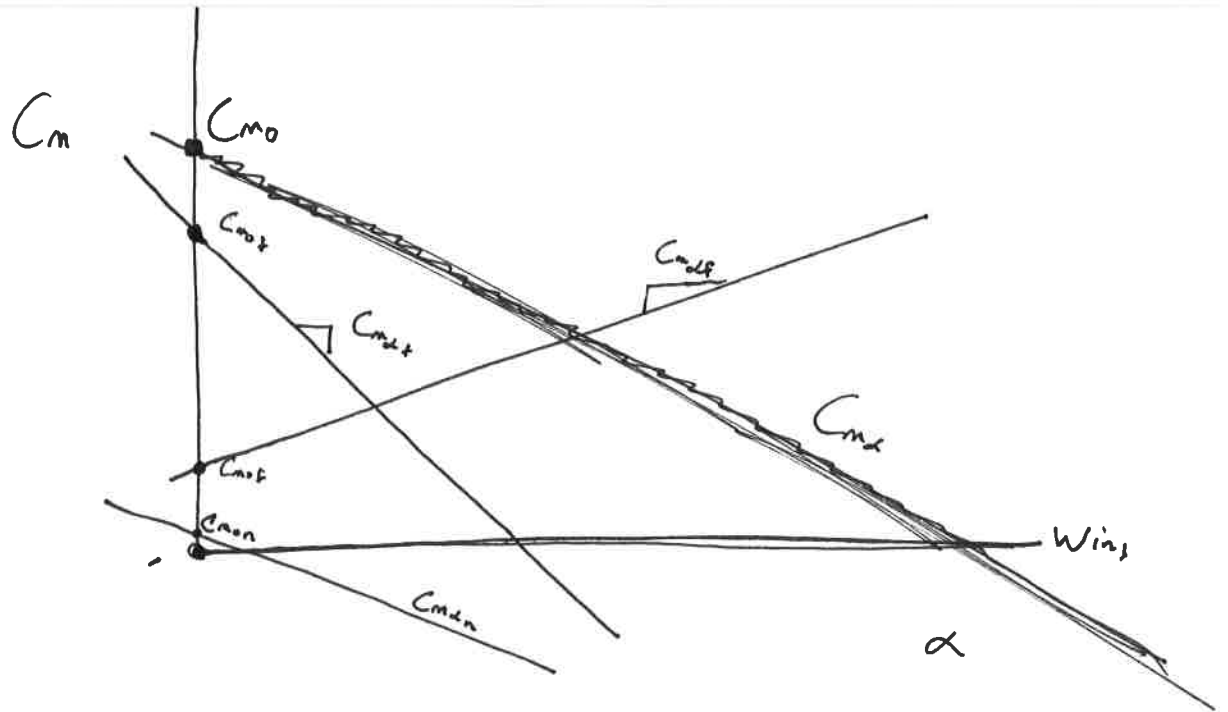


$$V_H = \frac{l_f S_f}{\bar{c}_w S_w}$$

c) Use EXCEL  
+ large image



e)



Delay

HW

Monday 6<sup>th</sup> by 5pm