

Fluids Lab 1 (SPL1) – Turn-In Sheet

Name: "Solution"

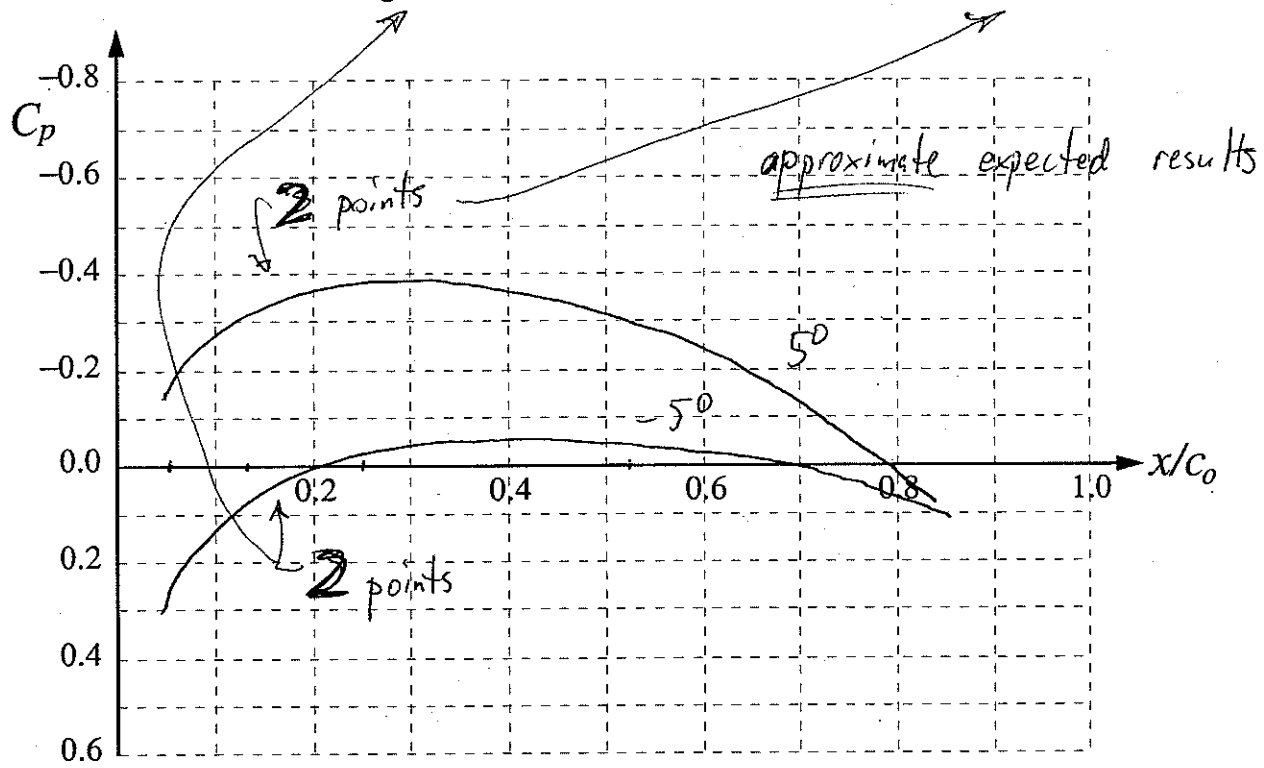
1) Centerline pressures

$\alpha = -5^\circ$      $q_\infty \approx 1.4$

$\alpha = 5^\circ$      $q_\infty \approx 1.4$

$x$	$x/c_o$	$\Delta p(x)$	$C_p$
2.5	0.0663		
5	0.1326		
10	0.2653		
20	0.5305		
30	0.7958		

$x$	$x/c_o$	$\Delta p(x)$	$C_p$
2.5			
5			
10			
20			
30			



Work:

Note to graders: Data will obviously vary group to group.  
 Take off points only for results which are clearly wrong

$$\frac{v}{v_{\infty}} = \sqrt{1 - C_p}, \quad C_p = \frac{\Delta p}{\rho g_{\infty}}$$

2) Maximum, minimum pressures

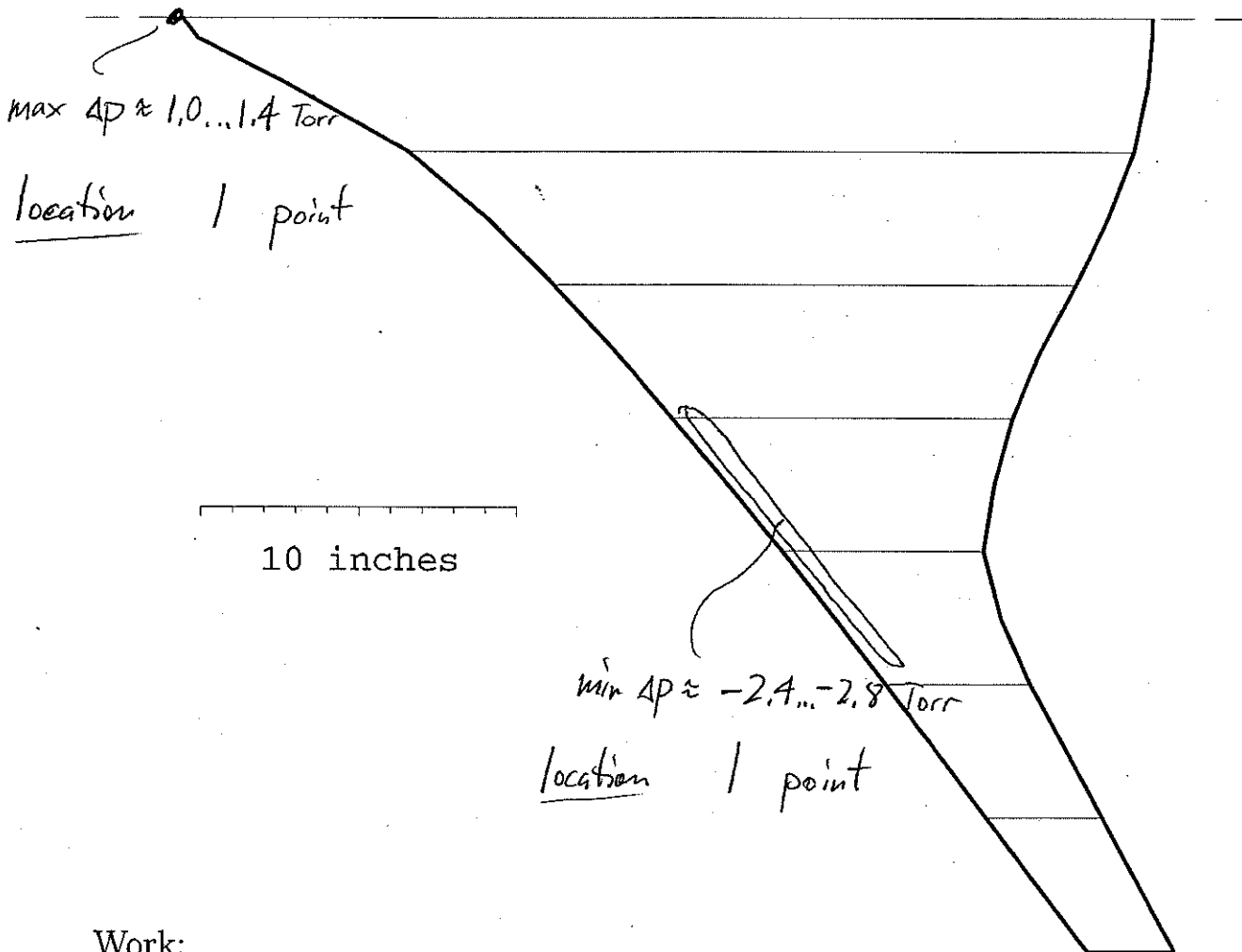
Operating parameters:  $\alpha = 5^\circ$ ,  $q_{\infty} = \sim 1.4$

a) Maximum  $\Delta p = +1.2$ ,  $\boxed{v/v_{\infty} = 0.4 \dots 0.4}$  2 points

b) Minimum  $\Delta p = -2.6$ ,  $\boxed{v/v_{\infty} = 1.4 \dots 1.7}$  2 points

approximate ↗

Mark approximate a), b) locations on model plan view:



Work: