ME 354 Endterm Study Guide

The following are suggested problems to review for the second midterm exam.

Problem 13.4	for τ_c=251 MPa, γ_c=0.10 and T = 444 N·m
Problem 8.5	
Problem 8.6	(b) P = 74.4 kN
Problem 8.8	(b) X_o = 10.6
Problem 8.9(a&c)	a = 1.62 mm, X_o = 3.55
Problem 8.40	not plane strain, but LEFM applies. $r_{o\sigma}$ = 1.33 mm
Problem 8.42	LEFM applies, K_{Ic} = 49.7 MPa·m$^{\frac{1}{2}}$, $r_{o\varepsilon}$ = 0.069 mm
Problem 15.2	(b) $\dot{\varepsilon}_{sc} = 1.584 \times 10^{-5} \sigma^{2.145}$
Problem 15.9	$\sigma_2 = 24.7\,\text{MPa}$
Problem 15.11	0.0267 mm, 8.04 mm
Problem 15.42	0.180 mm, 0.422 mm
Problem 9.25	N_f = 1.9e5, 6.4e4, 5.3e5
Problem 9.26	N_f = 1.9e5, 4.0e4, 1.9e6
Problem 9.27	N_f = 1.9e5, 6.5e4, 9.6e5
Problem 9.35	X_N= 1422 X_S= 1.739
Problem 9.37(a)	X_N= 29.40
Problem 9.43	B_f = 124,000 (SWT)
Problem 9.45	B_f = 21,200 (SWT) B_f = 3,517 (Morrow)
Problem 9.46	B_f = 742 (SWT) B_f = 1,775(Morrow)
Problem 9.47	B_f = 53,271 (SWT) B_f = 101,1400 (Morrow)
Problem 11.27	N=46,552
Problem 11.32	ΔP = 274.6 kN
Problem *13-5	a = 1.74 in
Problem *13-25	d = 1.75 in
Problem *13-28	P = 207 lbs