Key for Practice Exam
Exam 3 (Final), Fall 2000

1.	F	21.	C
2.	F	22.	B
3.	F	23.	D
4.	T	24.	B
5.	T	25.	B
6.	T	26.	C
7.	T	27.	C
8.	F	28.	D
9.	F	29.	A
10.	T	30.	C
11.	F	31.	C
12.	T	32.	B
13.	F	33.	B
14.	F	34.	B
15.	F	35.	C
16.	F	36.	D
17.	F	37.	A
18.	C	38.	D
19.	D	39.	E
20.	D	40.	B
		41.	B

In the following solutions an underscore means to subscript and a caret means to superscript. For example, S^2 means S squared and mu_y means mu sub y.

42. Xbar = 9, S^2 = 8

43. a)

Source	SS	df	MS	F
Treat	702	2	351	3.99
Error	2112	24	88	
Total	2814			

b) square root of MSE = 9.38 estimates sigma sub epsilon

c) Critical value = 3.40, reject Ho

d) q = 3.53, q * sqrt((1/n + 1/n)*MSE/2) = 11.03811

Comparison	Estimate	Interval
mu1 - mu2	-9	(-20.04, 2.04)
mu1 - mu3	3	(-8.04, 14.04)
mu2 - mu3	12	(0.96, 23.04)

Only mu2 and mu3 are significantly different

e) R^2 = 702/2814 = .24947, 25% of variability is explained

44 a)

Parameter	Estimate
alpha	a = -1.874

beta b = 0.075628
sigma S_e = 0.4965

b) muhat y_x = a + b x^* = -1.874 + 0.075628 x 60 = 2.66 minutes

c) y hat = a + b x^* = 2.66 minutes

d) Sxx = (n-1)S^2_x = (272-1) x 184.96 = 50,124.16

S_{a + bx} = S_e sqrt{1/n + (x^*-xbar)^2/Sxx}
= .4965 sqrt{1/272 + (60-70.90)^2/50124.16} = 0.03861

t_{.975,270} = 1.98

muhat y|x^* +/- t_{1-alpha/2,n-2} S_{a + bx} = 2.66348 +/- 1.98 x 0.03861
= (2.587, 2.7399)

99% CI is (2.59, 2.74) minutes.