1.

a) $-4.4 + 0.96x$

b) 18.3

c) $F_{1,29} = 499.45$ $T_{29} = 22.35$

d) 0 at 0

e) $62.713 \pm 1.699\sqrt{18.3(1/30 + 400/9920)} = (60.7, 64.7)$

f) Not possible (or (55,70))

2.

a) x_3 and x_4 because of the p-values.

b) x_4 (4), x_4, x_2 (9)

c) 9: nothing else to add.

d)

Source	DF	SS	MS	F	P
Regression	2	47.089	23.545	30.81	0.000
Residual Error	37	28.270	0.764		
Total	39	75.360			

e) $\hat{y}_i - \hat{\beta}_0 - \hat{\beta}_4 x_4 - \hat{\beta}_2 x_2$

3.

4.

a)

Source	DF	SS	MS	F	P
Factor	3	134.15	44.72	30.84	0.000
Error	28	40.69	1.45		
Total	31	174.84			

b) p-value 0

c) Normal and small ratio with balance

d) $\hat{\omega} = 1.56375$, Var 0.18125, sd 0.4257347, T 3.673062, F 13.49

e) $3.86\sqrt{1.45/8} = 1.64$. IV-III, II-I.

5.