

PMgt 630, Statistical Analysis

HW # 9

Fall 2008

Note: Please turn in electronically (empastats@gmail.com) by 7:30pm on 10 December 2008.

Complete The Following Problems:

1. A state HR manager is interested in the amount of resources that a new computer system costs the state. She selects a SRS of state agencies and has the local agency record the number of administrative hours devoted to supporting the new system. The data are shown in Table 1.
 - (a) State H_O : and H_A :.
 - (b) Check the conditions necessary for inference, including the use of an appropriate histogram, residual plot, and scatterplot (that makes 3 plots), make sure to appropriately *describe* the scatterplot of the data.
 - (c) Write the equation for the best fitting line to the data.
 - (d) Test the claim that there is no linear relationship between the number of computers on the new system and the amount of time needed to administer the system at $\alpha = 0.05$. State your conclusion in context of the problem.
 - (e) Make an appropriate conclusion about your findings, including an appropriate statement about R^2 .
 - (f) What is the expected value of the amount of time spent in administration of the new system for an increase in one computer?
 - (g) What is the predicted value for an agency that is only made up of 22 computers? Are there any caveats you would use when describing this prediction?

Table 1: Number of computers and number of administrative hours for 25 randomly selected county agencies.

Student	Computers	Administration Time
1	42	74
2	32	69
3	31	71
4	39	71
5	39	68
6	35	62
7	41	67
8	29	67
9	43	76
10	49	65
11	38	72
12	39	74
13	37	67
14	29	69
15	38	69
16	41	74
17	41	68
18	33	69
19	37	66
20	36	68
21	36	67
22	43	69
23	40	71
24	39	61
25	38	73