

Homework #2 - Interpreting Scatterplots & Least-Squares Regression

1) This data is the Year and the Average Tuition at an Arizona college.

YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TUITION	6546	6996	6996	7650	7500	7978	8377	8710	9110	9411	9800

- a) Following the directions above, create a scatterplot of the data. Sketch it below. Be sure to label your X and Y axes with numbers and variable names!!
- b) Describe the plot of Year vs. Tuition (form, direction, strength)
- c) As YEAR increases, what tends to happen to the tuition?
- d) Use the calculator to find the equation of the regression line. What is the equation?
- e) What is the correlation? What does this mean in context?
- f) Interpret the slope in context.
- g) Interpret the y-intercept in context.

2) The data below come from Florida Fish and Wildlife Conservation Commission. It is the number of Manatees in Florida killed in a specific year, versus the number of powerboats registered (in thousands) in Florida that year. The Conservation Commission feels that powerboats threaten the existence of manatees.

a) Following the directions above, create a scatterplot of the data. Sketch it below. Be sure to label your X and Y axes with numbers and variable names!!

Manatees	Powerboats
13	447
21	460
24	481
16	498
24	513
20	512
15	527
34	559
33	585
33	614
39	646
43	675
50	711
47	719
53	716
38	716
35	716
49	735
81	860
95	923
73	940
69	946
79	974

b) Describe the plot of Manatees vs. Powerboats (form, direction, strength)

c) Do powerboats seem to have an effect on manatees? Justify your answer!

d) Use the calculator to find the equation of the regression line. What is the equation?

e) What is the correlation? What does this mean in context?

f) Interpret the slope in context.

g) Interpret the y-intercept in context.