Regression: Finding a Predictor

Wild black bears were anesthetized, and their bodies were measured and weighed. One goal of the study was to find an equation relating weight to some other physical characteristic for forest rangers, so they could estimate the weight of a bear based on another measurement. This would be useful because in the field it is easier to measure a length than it is to weigh a bear with a scale. The data submitted were the following:

weight = Weight of the bear, in pounds
length = Body length, in inches
chest.g = Girth of the chest, in inches

Your Task: Find which best could be used to predict weight: length or chest girth. Experiment with fitting your own line first, and then ask for the line of best fit.

http://www.shodor.org/interactivate/activities/Regression/

Hints: You can copy the data into the regression applet, but don't highlight the headers, just the data points.

length	weight
45	65
47.5	70
57	74
59.5	142
62	121
53	80
56	108
67.5	344
78	371
72	416
77	432
72	348
75	476
75	478
75	386
62	166
70	220
78	334
73.5	262
68.5	360
76	416
64	204
58	144
60.3	122
73	332
37	34
63	140
67	180
52	105
59	166
64	204
66	250

36	115
59	120
59	114

chest.g	weight
23	65
24	70
27	74
38	142
31	121
26	80
30.5	108
45	344
49	371
54	416
52	432
49	348
54.5	476
55	478
49	386
35	166
41	220
45	334
41	262
49	360
53	416
38	204
31	144
32	122
44	332
19	34
32	140
37	180
29	105
33	166
39	204
40	250
19	115
30	120
30	114
38	210
48	432
32	125
26	65
48	356
48	316
34	148
30	104

29	94
29.5	230
35	150