Unit 2 - Exploring and Understanding Data

Day 8: Wrap up

2002 AP Problem:

\[ \hat{y} = a + b \times x \]

a) operating cost = 1136 + 14.673(seats)

b) \( r = .755 \) There is a moderately strong, positive, linear association between the number of seats on the plane and the operating cost per hour.

c) No. The association between the interval of 250-350 seats is a negative association, whereas the overall association is positive because of the influential points in the upper right corner.

2005 AP Problem, #3

\[ E = 1 \times \hat{a} \quad P = \frac{3}{2} \times \hat{b} \quad I = 0 \times \hat{c} \]

a) Yes..... 1) scatterplot shows a strong linear pattern.
   2) residual plot has no pattern, is scattered, and has small values
   3) r-sq is very close to 100%
   4) r is very close to 1

b) for each additional railcar, we use 2.1495 units of extra fuel. Each unit of fuel costs $25, so 25 x 2.1496 = $ 53.75

c) 96.7% of the variation in fuel consumption is explained by the variation in the number of railcars.

d) Ahhhh! extrapolation.
1. The scatterplot below displays the price in dollars and quality rating for 14 different sewing machines.

Please use the rest of the time to continue working on all practice materials.

ASK QUESTIONS!

TEST TOMORROW!