Chapter 12

12.2:

Fitting a straight line to a set of data yields the prediction line $\hat{Y}_i = 7 + 2X_i$.

The values of X used to find the prediction line range <u>from 1 to 25</u>

a) X = 3?   b) X = -3?   c) X = 0?   d) X = 24?

12.5:

Zimmer's posts restaurant ratings for various locations in the United States. a sample of 100 restaurants in New York city was selected.

a) Develop a regression model to predict the cost per person?

$$b_0 = -46.7718 \qquad b_1 = 1.4963$$

b) Predict the mean cost per person for a restaurant when $X_i = 50$

12.17

If SSR=9740.062, and   SST=17844.75, from a sample of 100

a) Compute the coefficient of determination, r^2, and interpret its meaning.

b) Determine the standard error of the estimate

c) How useful do you think this regression model is for predicting the cost of a restaurant meal

12.43

based on 12.5, $b_1 = 1.4963$ and $S_{b_1} = 0.1379$

a) At the 0.05 level of significance. is there evidence of a linear relationship between rating of a restaurant and the cost of a meal

b) Construct a 95% confidence interval estimate of the population slope, $\beta 1$.

12.51

The table below contains the calories and fat, in grams, of seven different types of coffee drinks

coffee	calories	fat
1	238	7.9
2	259	3.4
3	346	22.2
4	347	19.8
5	419	16.3
6	505	21.5
7	527	18.7

a) At the 0.05 level of significance. is there a significant linear relationship between calories and fat? (use T-test)

b) At the 0.05 level of significance. is there a significant linear relationship between calories and fat? (use F test)