Chapter 8.a - Best Fit and Residuals

1) Quick Review of Pg. 164c

2) Quiz 7

3) After Quiz Reading - Part of Assignment :)

4) Notes: Linear Regression Model and Residuals

5) Assignment Time

Pg. 164c, #27, 28, 32, 35-37, 39, 41
Correlation Conditions

**Correlation**
- measures the strength of a *linear* association between two quantities

so check for...

1) Quantitative Variables Condition
   - both variables are quantitative

2) Straight Enough Condition
   - scatter plot of the data is "straight enough" (judgement call)

3) Outlier Condition
   - when an outlier possibly effects strong/weak or positive/negative
     think about reporting correlation with and without the outlier

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Line of Fit and Residuals

WHEN a linear model (correlation) is appropriate, we can make a

**Line of Best Fit Model**
- gives a predicted value of the response variable
- predicts $\hat{y}$ (y-hat) in terms of a real x
- it is considered "the best" because it has the smallest...

**Residual**
- Residual = Actual - Predicted  
  [ AP :) ]

Notice: a negative residual means the predicted value was too high
Assignment (Due Friday, October 16)

1) Read Chapter 8
   -read p. 171-172

2) Pg. 192, #1-6, 13, 15, 21, 22

3) Hand in Test Corrections by End of Period