

Name \_\_\_\_\_

### Investigation 7: Are Gender and Pay Related? Continued

#### Exit Ticket

For each scatterplot shown in problems 1 and 2:

- Sketch a residual plot from the line of best fit.
- Determine if a linear model is appropriate.
- If a linear model is appropriate, estimate the correlation coefficient
- Summarize the relationship between the variables
- Interpret the values in the equation of the line of best fit in the context of the situation.

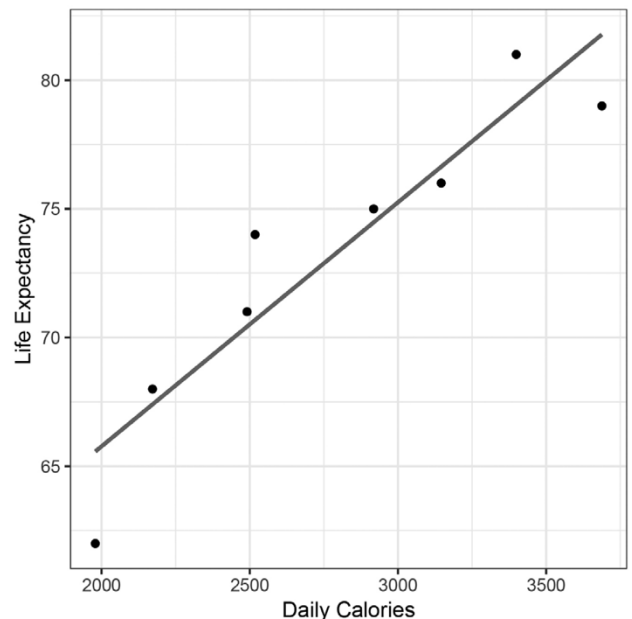
Extra: What statistical question might the data answer?

1. Health and Nutrition

The scatterplot shows how average daily food supply (in calories) is related to life expectancy (in years) in a sample of countries in the western hemisphere. The equation of the least squares regression line is  $\hat{y} = 0.009x + 4681$ .

(Source: World Health Organization Global Health Observatory Data Repository; faostat3.fao.org)

a. Sketch of Residual plot:



b. Is linear an appropriate model? Explain

c. Estimate for correlation coefficient

d. Summary of the relationship

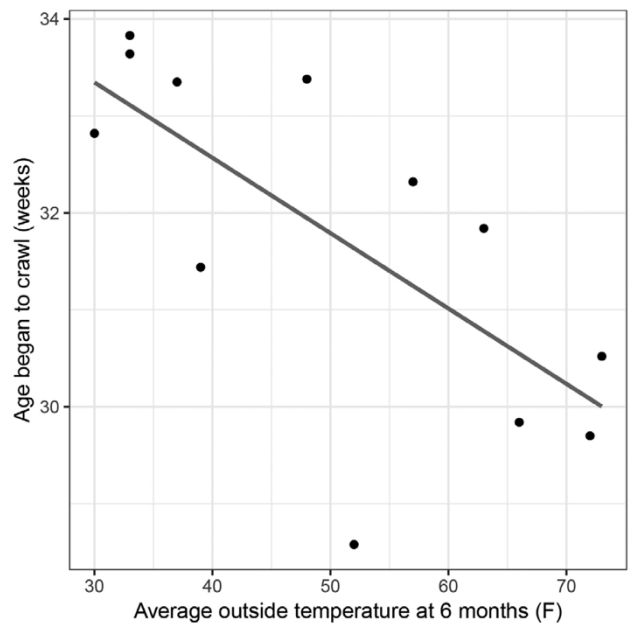
e. Interpretation of slope and intercept

## 2. Crawling Age

The scatterplot shows the average daily outside temperature when the babies were six months old and the average age in weeks at which those babies began to crawl are reported. The equation least squares regression line is  $\hat{y} = -0.078x + 35.68$ .

(Source: Benson, Janette. "Infant Behavior and Development," 1993.)

a. Sketch of Residual plot:



b. Is linear an appropriate model? Explain

c. Estimate for correlation coefficient

d. Summary of the relationship

e. Interpretation of slope and intercept