Name:

SOLLTIONS

Read the introduction to Exploration 10.1 on page 525, then answer the following related questions. You will use the **PlateSize** data from the book's website.

1. What is the research question? What are the observational units?

Q: Have dinner plates gotten bigger over time? units: plates

2. Identify the explanatory and response variables and their types.

explanatory; year of manufacture } both quantitative response; diameter of plate

3. What is the correlation coefficient for these two variables?

Y= .604

4. Based on the scatterplot, does the correlation coefficient seem like a reasonable measure of association?

sure - a positive linear association is evident

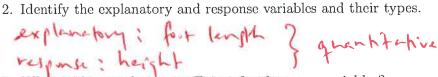
5. Using the correlation coefficient as your observed statistic, what are the relevant null and alternative hypotheses?

Ho: r=0 Vs. HA: r + 0

6. Using the correlation coefficient as your observed statistic, conduct a simulation and compute the relevant p-value. What do you conclude?

p ~ .0075 = .759. -> reject null; have evidence of an association

Read the introduction to Exploration 10.3 on page 542, then answer the following relate questions. You will use the FootHeight data from the book's website.	ed
1. What is the research question? What are the observational units? Q: Does height depend linearly on fost length? units: 5 Indents	



3. What is the correlation coefficient for these two variables?

4. What is the equation of the regression line for this data?

5. Answer the first 3 parts of question 9 from Exploration 10.3 (page 544). Be sure to internalize 9(d) before the final exam! (a) for thought = 28 cm => predict height = 67.14" } difference

(b) for thought = 29 cm => predict height = 68.17" } is slope!

6. Answer both parts of question 10 from Exploration 10.3 (page 544). Does part (a) make

fortlergth = 0 => predict height = 38,3 "
La nonsense! sense?

7. What is the coefficient of determination for this regression line? What does it mean?

8. Using the slope of the regression line as your observed statistic, what are the relevant

null and alternative hypotheses?

Ho: B = 0 Vs. Ha: B = 0

9. Using the slope of the regression line as your observed statistic, conduct a simulation and compute the relevant p-value. What do you conclude?

p = 09. => reject null; have evidence of an association (nonzero slope)