

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?
2. Identify the explanatory and response variables and their types.
3. What is the correlation coefficient for these two variables?
4. Based on the scatterplot, does the correlation coefficient seem like a reasonable measure of association?
5. Using the correlation coefficient as your observed statistic, what are the relevant null and alternative hypotheses?
6. Using the correlation coefficient as your observed statistic, conduct a simulation and compute the relevant  $p$ -value. What do you conclude?

Read the introduction to Exploration 10.3 on page 542, then answer the following related questions. You will use the **FootHeight** data from the book's website.

1. What is the research question? What are the observational units?
2. Identify the explanatory and response variables and their types.
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!
6. Answer both parts of question 10 from Exploration 10.3 (page 544). Does part (a) make 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?
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?