Lesson #69 · Topic 5B · Practice

Answer Key

1. a. $\hat{y} = -2.97 + 2.93x$, where $x =$ natural resources ($ billions) and $\hat{y} =$ predicted gross domestic product ($ billions).

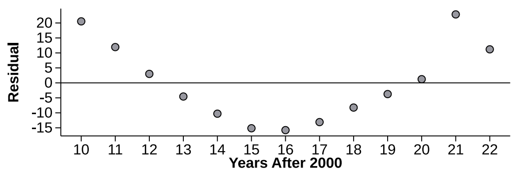
   b. $143.53 billion

2. a. The point at about (54, 210). It has the largest vertical distance from the regression line and therefore has the largest residual.

   b. No, there is a clear curved pattern in the residual plot.

3. a. -15.75. The actual revenue was $15.75 billion below the predicted revenue for 2016.

   b. About $25 billion.

   c. 

   d. No, even though the correlation is strong, the linear model is not a good fit. The residual plot shows a clear curved pattern.

4. a. Yes, there is a random scatter on the residual plot.

   b. 80

5. a. The actual number of emails Emily answered is 4.5 emails above the number predicted for 3 hours of work.

   b. The actual number of emails Emily answered is the same as the number predicted for 4 hours of work.

   c. The residuals typically vary by 4.017 emails from the mean of 0.

6. A

7. B