Statistical Reasoning Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

WS 4.4: Linear Regression Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Day \_\_\_\_\_\_\_\_\_

Create a scatterplot, find the linear regression equation, determine the correlation, and then make a prediction.

1. The table below gives the amount of time students in a class studied for a test and their test scores.



1. Draw the scatterplot
2. Find the linear regression equation:
3. What does the slope mean in this context.
4. r = \_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Describe the correlation. Is it weak, moderate, strong?
6. r2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. What does this tell you about your linear regression equation?
7. Using the linear regression equation, predict a student’s score if they studied for 4 hours.





1. Find the linear regression equation:
2. What does the slope mean in this context.
3. r = \_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Describe the correlation. Is it weak, moderate, strong?
5. r2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. What does this tell you about your linear regression equation?
6. Using the linear regression equation, predict what the population will be in 2015.
7. The table below shows the percentage of females in the US labor force throughout various times in history:



1. Find the linear regression equation. (round slope and y-intercept to 2 decimal places)
2. What is the meaning of the slope? Of the y-intercept?
3. Using your equation, what was the percentage of women working in 2010? 2019?

(be careful what value you enter for x - # years after 1900)

1. Find r. What does it mean?
2. Find r2. What does it mean?
3. Recently Adam put larger wheels on his skate board to see if it would coast farther. He tested his theory and found the following data.
4. Find the linear regression equation. (round slope and y-intercept to 2 decimal places)
5. What is the meaning of the slope? Of the y-intercept?
6. Using your equation, what was the percentage of women working in 2010? 2019?

(be careful what value you enter for x - # years after 1900)

1. Find r. What does it mean?
2. Find r2. What does it mean?