

Name: _____

Course & Section: _____

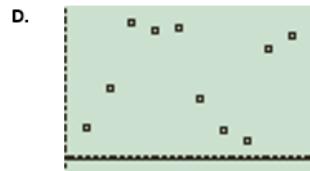
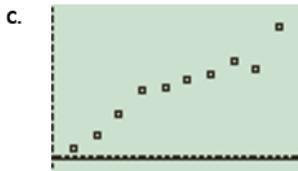
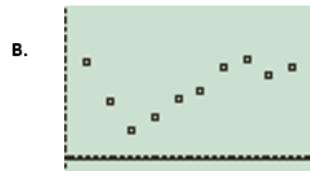
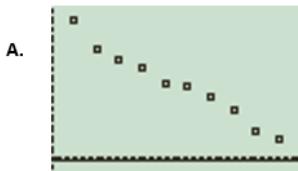
Electronic copies of this homework are located in D2L.

Regression on the Rebound Pre-Class Assignment

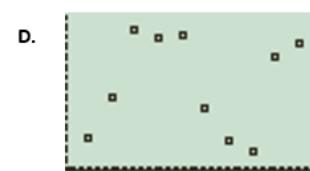
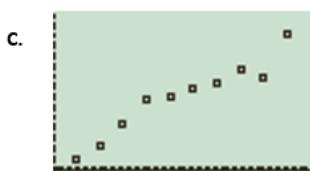
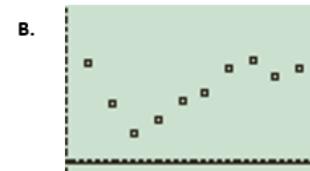
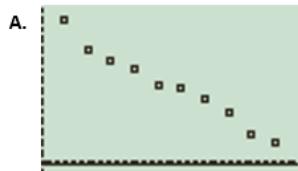
Part 1

Watch the Video: [Regression pre class Part 1](https://www.youtube.com/watch?v=1ye6oUGCIho) (<https://www.youtube.com/watch?v=1ye6oUGCIho>)

1. Circle the scatterplot which shows a positive correlation.



2. Circle the scatterplot that corresponds to a data set with $r = -0.98$.



3. What is the largest value of r ?

- a. 0
- b. 1
- c. 100
- d. No largest value

4. What is the smallest value of r ?

- a. 0
- b. -1
- c. -100
- d. No largest value

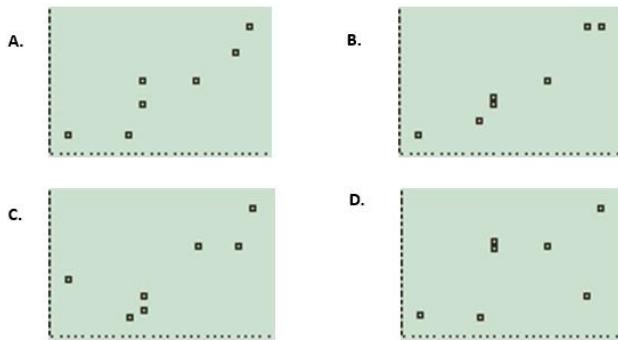
5. What does an r close to zero mean?

- No linear relationship
- Positive linear relationship
- Perfect linear relationship
- Perfect negative linear relationship

Part 2

Watch the Video: [Regression pre class Part 2](https://www.youtube.com/watch?v=l0ongPmadkM) (<https://www.youtube.com/watch?v=l0ongPmadkM>)

1. Which scatterplot matches your graph?



Part 3

Watch the Video: [Regression pre class Part 3](https://www.youtube.com/watch?v=c8h9dO3tVI8) (<https://www.youtube.com/watch?v=c8h9dO3tVI8>)

1. What value did you get for 'a' ? (Enter your answer to one decimal place.)

- 1.5
- 96.9
- 0.96
- 92.7%

Part 4

Watch the Video: [Regression pre class Part 4](https://www.youtube.com/watch?v=kjKa2U0PAw4) (<https://www.youtube.com/watch?v=kjKa2U0PAw4>)

1. Find the line of best fit for this data. What is the slope?

- 1.5
- 96.9
- 0.96
- 92.7%

2. What is the y -intercept?

- 1.5
- 96.9
- 0.96
- 92.7%

3. What is r ?

- 1.5
- 96.9
- 0.96
- 92.7%

Child's Age (in years)	Hours of Sleep per Day
2	13
3	12
4	11.5
5	11
6	10.75
7	10.5
8	10.25

4. What is r^2 ?

- a. 1.5
- b. -96.9
- c. 0.96
- d. 92.7%

5. Interpret the slope.

- a. For each 1°F increase in the temperature, we expect an average increase of 1.5 oz. to be consumed
- b. For each 1 oz. of water consumed, we expect an average increase in 1.5°F in the temperature
- c. For each 1°F increase in the temperature, we expect an average decrease of 97 oz. to be consumed
- d. For each 1 oz. of water consumed, we expect an average decrease in 96.7°F in the temperature

6. Interpret the y-intercept.

- a. When the temperature is 0°F, -96.9 oz. of water is expected to be consumed, however the data was collected in the summer, and thus 0 is outside the range of predictability of this model, so the y-intercept does not make sense
- b. When the temperature is -96.9°F, we expect 0 oz. of water to be consumed, however the data was collected in the summer, and thus 0 is outside the range of predictability of this model, so the y-intercept does not make sense
- c. When the temperature is 0°F, this interpretation is appropriate and valuable
- d. When the temperature is -96.9°F, this interpretation is appropriate and valuable

7. Interpret r .

- a. Almost 93% of the variability in the amount of water consumed is explained by the outside temperature
- b. Almost 93% of the variability in the outside temperature is explained by the amount of water consumed
- c. There is a strong positive linear relationship between the amount of water consumed and the outside temperature
- d. There is a strong negative linear relationship between the amount of water consumed and the outside temperature.

8. Interpret r^2 .

- a. Almost 93% of the variability in the amount of water consumed is explained by the outside temperature
- b. Almost 93% of the variability in the outside temperature is explained by the amount of water consumed
- c. There is a strong positive linear relationship between the amount of water consumed and the outside temperature
- d. There is a strong negative linear relationship between the amount of water consumed and the outside temperature.

Part 5

Watch the Video: [Regression pre class Part 5](https://www.youtube.com/watch?v=GOjWunBS-kY) (<https://www.youtube.com/watch?v=GOjWunBS-kY>)