

Name: _____ Period: _____

Score:
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HW 7-7 HONORS: Causation

1. Mr. Jones gave a math test to all the students in his school (grades 1-12). He made the startling discovery that the taller students did better than the shorter ones. His conclusion was that as your height increases, so does your math ability.

Does this imply causation?

Are there any hidden variables that impact your decision regarding causation? If so, describe some of them.

2. Danny is a truck driver for a construction company. The staff at the warehouse loads up his truck with flats of cement bricks while the truck is parked on a scale. They consider the weight of the truck as additional flats of bricks are added to the truck. There is a strong positive relationship between the number of flats loaded onto the truck and the weight of the truck.

Does this imply causation?

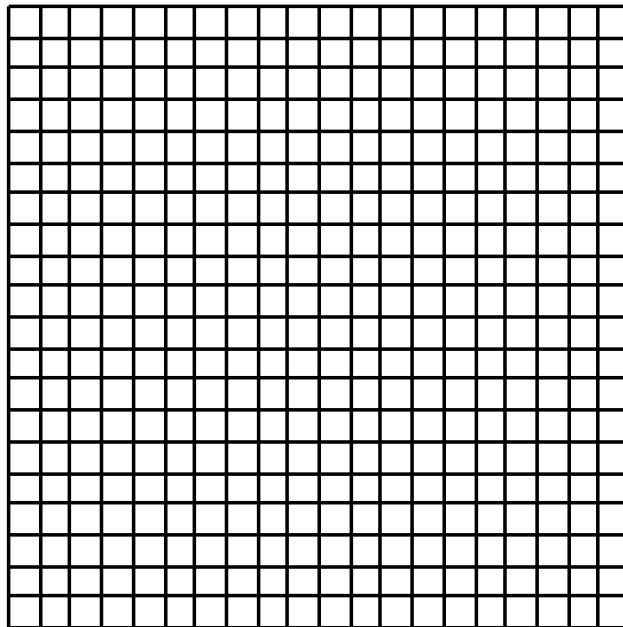
Are there any hidden variables that impact your decision regarding causation? If so, describe some of them.

3. There is a strong positive correlation between ice cream sales and shark attacks. As ice cream sales increase, the number of shark attacks increase.

Is it reasonable to conclude that ice cream consumption causes shark attacks? Why or why not.

Women's Olympic High Jump Record

Year	Distance(cm)
1932	165
1936	160
1948	168
1952	167
1956	176
1960	185
1964	190
1968	182
1972	192
1976	193
1980	197
1988	203
1992	202
1996	205



Let x be the years since 1930.

4. Create a scatter plot on the graph provided. Label your axes.

Calculator Needed

5. Find and interpret the correlation coefficient.

6. Find the equation of the linear regression line.

7. What is the slope? What does it mean in the context of the situation?

8. What is the y-intercept? What does it mean in the context of the situation?

9. In 2005 what would you predict the Women's Olympic high jump record to be?

10. Approximately what year will the women's record reach 212 cm?

11. Are the year and the women's high jump record correlated?

12. Is there causation between the year and the record?