## Putting It All Together

AIS

Let's interpret data.

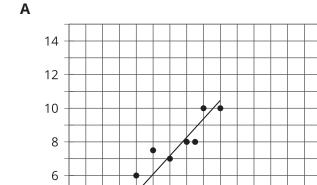


4

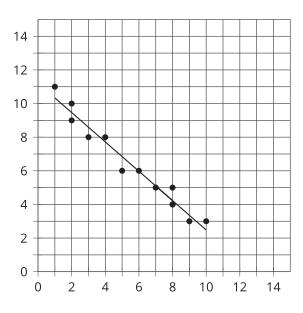
2

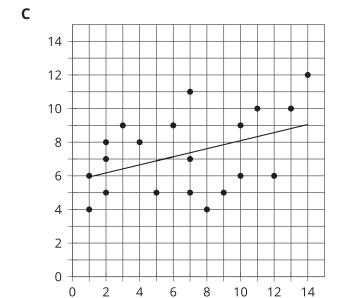
## **Which Three Go Together: Data Correlations**

Which three go together? Why do they go together?



В



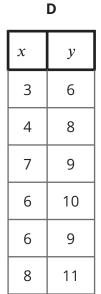


6

10

12

14

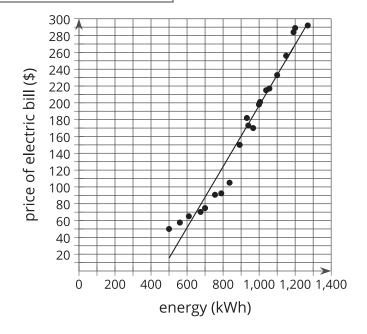


## 10.2 Electric Power

Here are Elena's representations of the data set.

energy (kWh)	amount charged for electricity (\$)
500	50
560	57.60
610	65.10
675	70.25
700	74.80
755	90.66
790	92.34
836	105
892	150
940	173
932	182

energy (kWh)	amount charged for electricity (\$)
967	170
999	198
1,005	201.22
1,039	215.35
1,057	217
1,100	233
1,191	284.62
1,150	256.98
1,200	289.60
1,270	292





After analyzing the data, Elena concludes:

- 1. An estimate for the correlation coefficient for the line of best fit is r = -0.98.
- 2. Energy consumption and the total amount charged for the electricity have a positive relationship.
- 3. Energy consumption and the total amount charged for the electricity have a weak relationship.
- 4. Using the linear model, the electric bill is \$260 when 1,200 kWh are consumed.

What parts of Elena's interpretation of the data do you agree with and what parts do you disagree with? Explain your reasoning.



## 10.3 Confident Players

Before Diego's game, his coach asked each of his players, "On a scale of 1–10, how confident are you in the team winning the game?" Here is the data he collected from the team.

player	confidence in winning (1-10)	number of points scored in a game
Player A	3	2
Diego	6	10
Player B	10	2
Player C	4	10
Player D	7	13
Player E	5	6
Player F	8	15
Player G	4	3
Player H	9	15
Player I	7	12
Player J	1	0
Player K	9	14
Player L	8	13
Player M	5	8



1.	Use technology to create a scatter plot, a line of best fit, and the correlation coefficient.

2. Is there a relationship between players' level of confidence in winning and the amount of points they score in a game? Explain your reasoning.

- 3. How many points does the linear model predict a player will score when his or her confidence is at a 4?
- 4. Which players performed worse than the model predicted?
- 5. Did Diego score better or worse than the linear model predicts?