Unit 3, Lesson 10

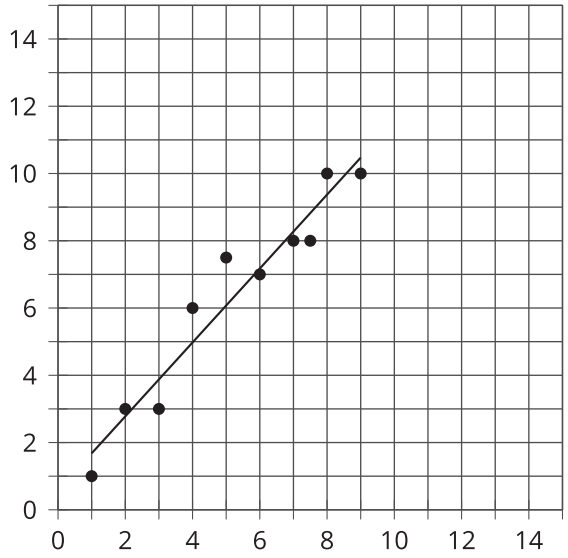
Putting It All Together

Let's interpret data.

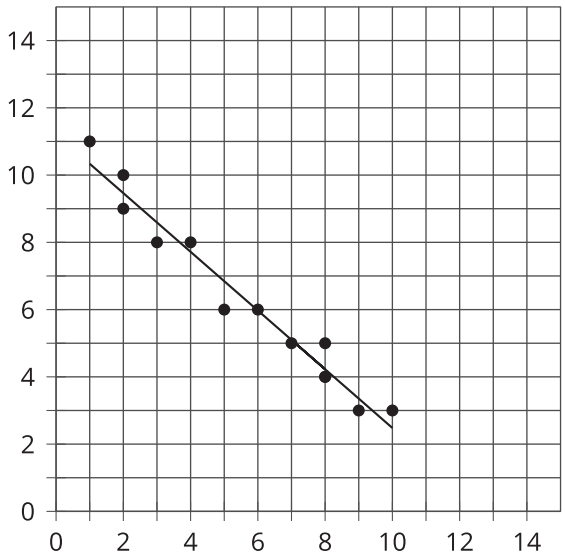
10.1 Which Three Go Together: Data Correlations

Which three go together? Why do they go together?

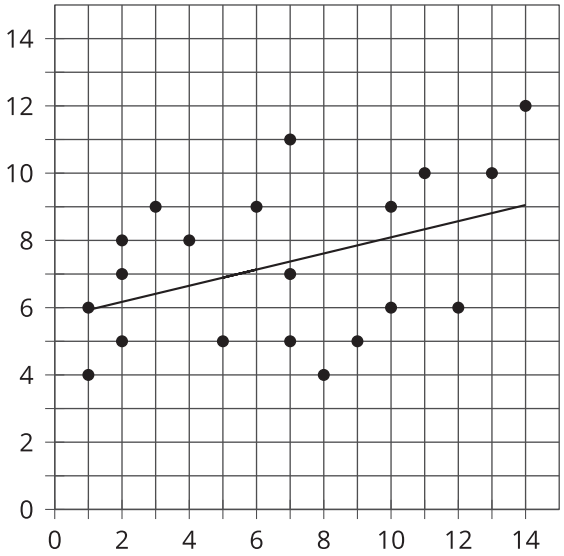
A



B



C



D

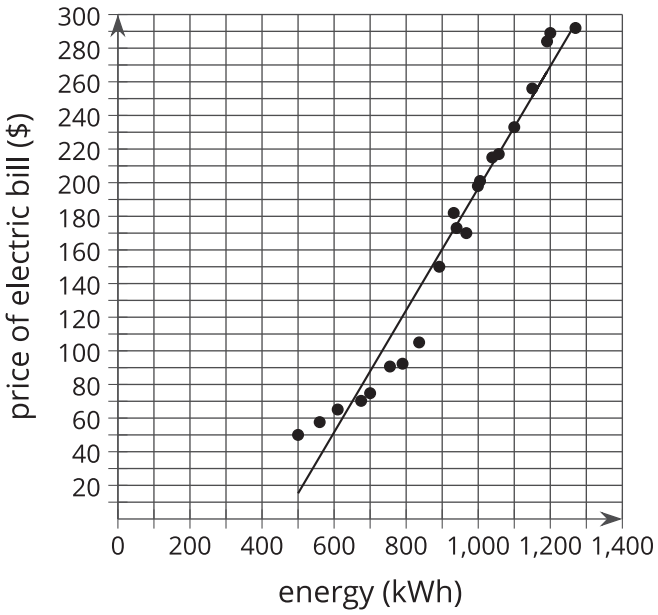
x	y
3	6
4	8
7	9
6	10
6	9
8	11

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?