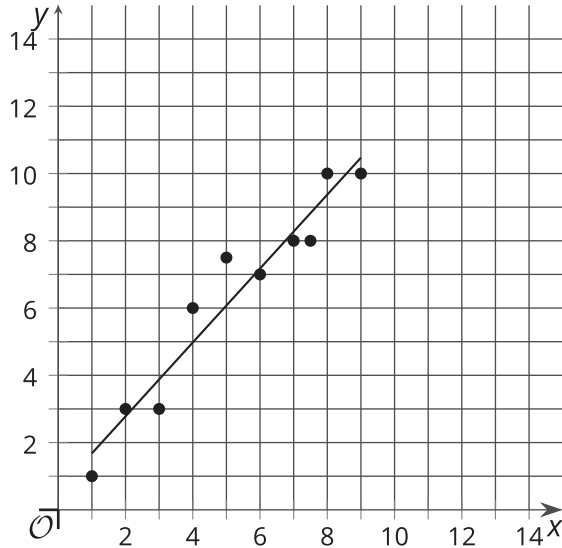# Unit 3 Lesson 10: Putting It All Together

1 Which One Doesn't Belong: Data Correlations (Warm up)
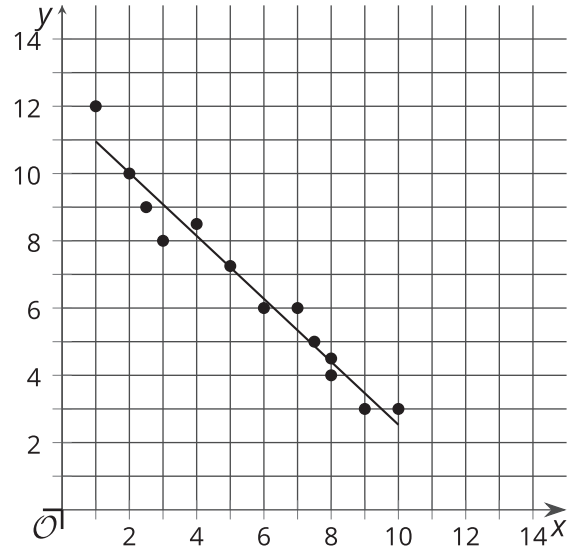
Student Task Statement

Which one doesn't belong?
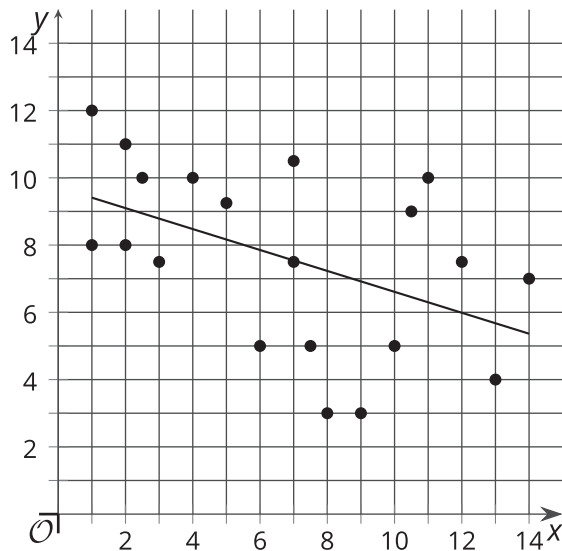
A

B

C

D

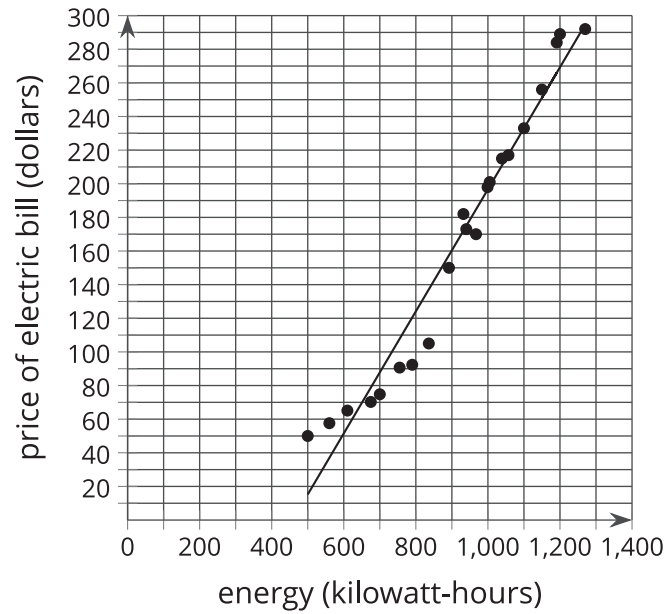| x	y
3	6
3.75	8.50
7.25	7.50
5.50	11
6	9
8	10.25

2 Electric Power (Optional)

Student Task Statement

Here are Elena's representations of the data set.

energy (kWh)	electric bill price (dollars)
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)	electric bill price (dollars)
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 price of electric bills have a positive relationship.

3. Energy consumption and the price of electric bills 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.

3 Confident Players (Optional)

Student Task Statement

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.

players	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?