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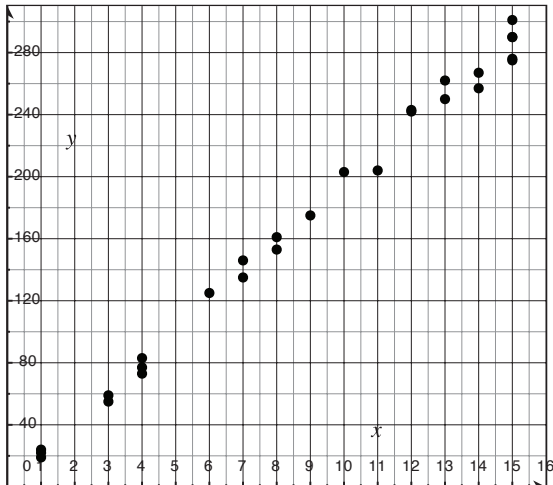
## UNIT 4 • DESCRIBING DATA

### Lesson 3: Interpreting Linear Models

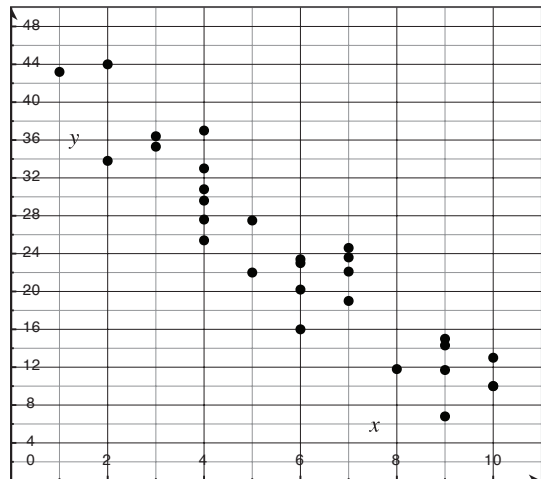
#### Practice 4.3.2: Calculating and Interpreting the Correlation Coefficient

For each of the following scatter plots, describe the type of linear correlation between the two variables: positive, negative, or no correlation, and identify whether it is strong or weak.

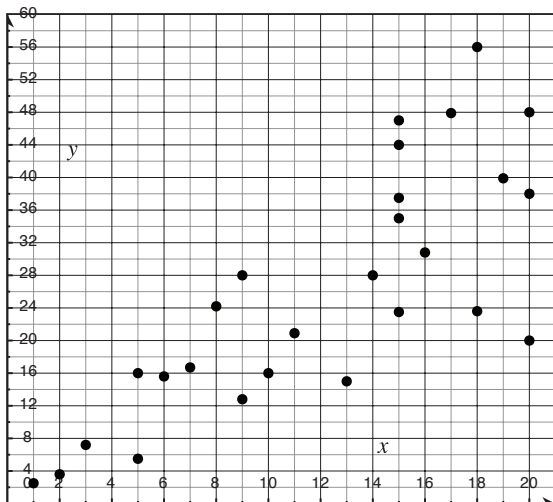
1.



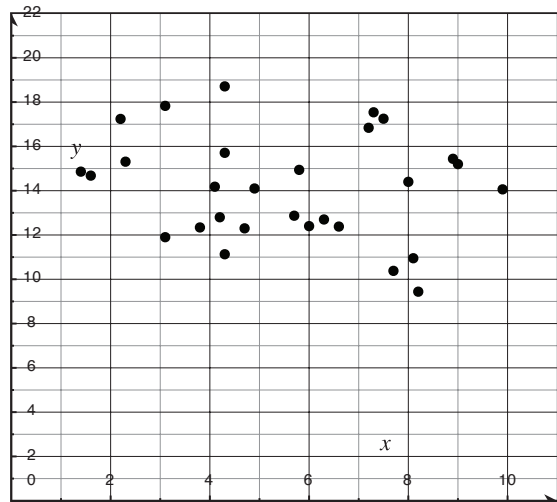
3.



2.



4.



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### Lesson 3: Interpreting Linear Models

Warmer weather can be an inspiration to plant gardens and work on landscaping. A plant nursery thinks there may be a relationship between weather and plant sales. Each day, the nursery records the average temperature in °F and the number of plants sold in a table. Use the table that follows for problems 5–7.

Average temperature (°F)	Plants sold	Average temperature (°F)	Plants sold
52	18	69	119
78	281	64	59
76	101	54	20
67	152	50	4
69	113	57	33
75	120	76	263
56	25	65	58
54	37	76	133
77	157	78	275

5. Create a scatter plot of the data.
6. Use your graph to describe the relationship between temperature and plant sales.
7. Find the correlation coefficient,  $r$ , of the data. Describe what the correlation coefficient indicates about the relationship between the data.

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## UNIT 4 • DESCRIBING DATA

### Lesson 3: Interpreting Linear Models

A cruise ship captain wants to know if there is a relationship between the number of children on the ship and the average attendance at a nightly pool party. The ship counted anyone under age 17 as a child. The results are in the table below. Use the table for problems 8–10.

Number of children	Average pool party attendance
663	23
454	76
737	23
200	112
101	116
216	139
666	23
415	52
978	61
930	62
850	22
891	63
253	110
795	22
858	64
117	144
842	65
275	136

8. Create a scatter plot of the data.
9. Use your graph to describe the relationship between the number of children and pool party attendance.
10. Find the correlation coefficient,  $r$ , of the data. Describe what the correlation coefficient indicates about the relationship between the data.