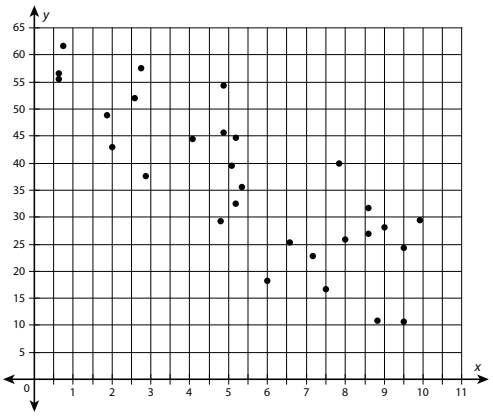
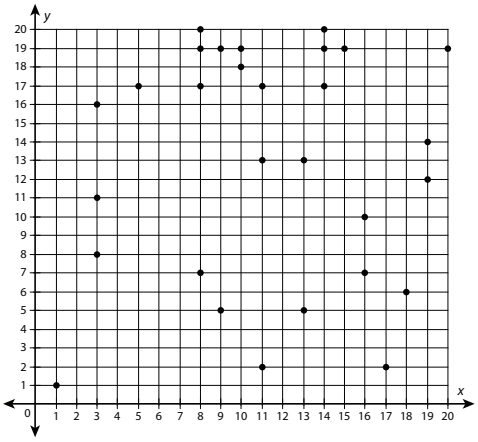
Practice 6.3.2: Calculating and Interpreting the Correlation Coefficient B

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.

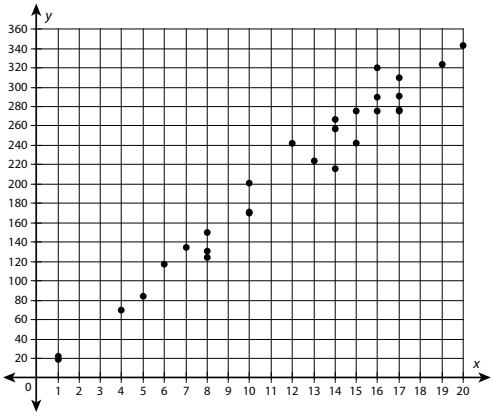
1.



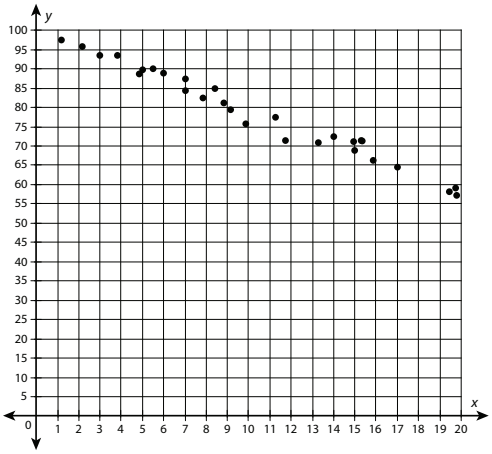
3.



2.



4.



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An airline wants to examine the relationship between the number of passengers on each flight and the pounds of luggage stored on the plane. The data is in the following table. Use the table for problems 5–7.

Number of passengers	Pounds of luggage	Number of passengers	Pounds of luggage
427	17,100	416	17,500
359	15,800	371	17,100
465	21,900	323	12,900
481	23,600	362	16,700
330	13,900	517	22,200
357	15,400	436	18,800
402	20,100	436	18,700
420	18,100	503	21,100
312	15,000	510	23,000
304	15,200	361	17,000

5. Create a scatter plot of the data.

6. Use your graph to describe the relationship between the number of passengers on a flight and the pounds of luggage on the plane.

7. Find the correlation coefficient, *r*, of the data. Describe what the correlation coefficient indicates about the relationship between the data.

continued

A magazine publisher wants to understand if there is a relationship between the number of print magazines sold and the number of unique visitors to the magazine's website. The publisher records the number of magazines sold and number of unique website visitors for 20 different days in the following table. Use the table for problems 8–10.

Magazines sold	Unique website visitors	Magazines sold	Unique website visitors
2,900	5,100	1,400	9,800
2,700	6,900	2,400	9,500
1,200	7,800	1,100	5,800
2,200	7,600	1,700	5,900
2,200	5,000	2,000	8,800
1,700	9,100	1,000	7,100
1,600	9,500	2,400	8,600
2,700	7,800	1,700	9,100
2,400	7,400	2,100	7,800
2,700	7,000	2,500	8,300

8. Create a scatter plot of the data.

9. Use your graph to describe the relationship between the number of print magazines sold and the number of website visitors.

10. Find the correlation coefficient, r, of the data. Describe what the correlation coefficient indicates about the relationship between the data.