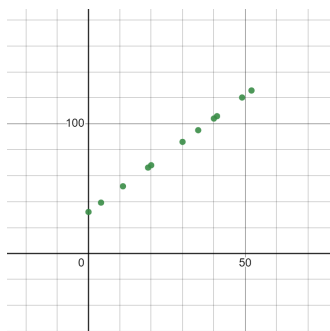


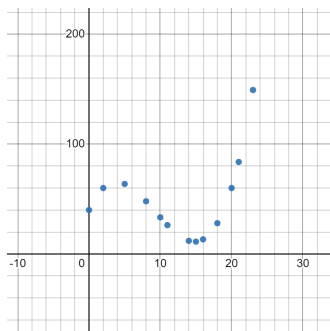
## 9.2.1: Exercises

1. Match the following scatterplots with the appropriate  $r$  value. Classify the association for each  $r$ .

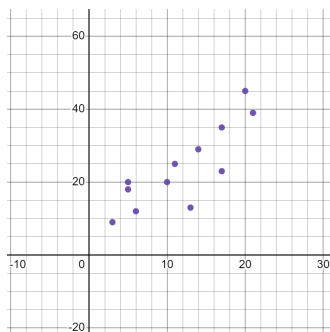
a.



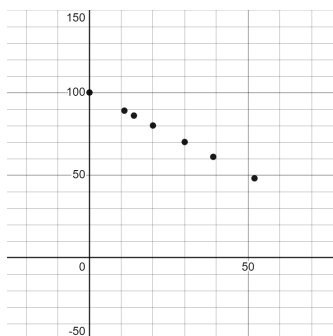
b.



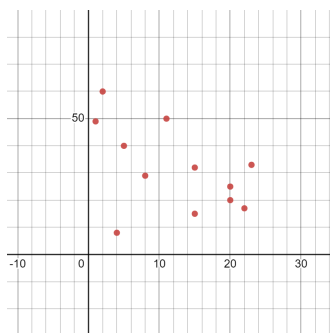
c.



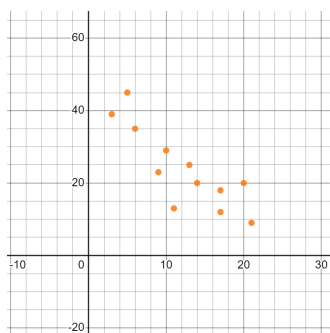
d.



e.



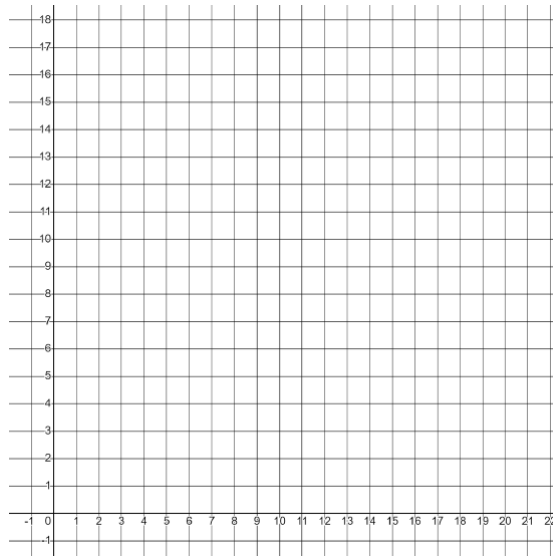
f.



Images are created with the graphing calculator, used with permission from Desmos Studio PBC.

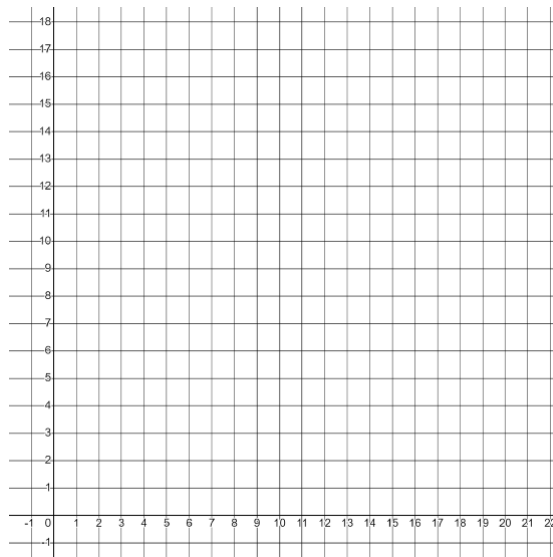
1.  $r = -1$  (perfect linear association)
2.  $r = 1$  (perfect linear association)
3.  $r = 0.304$
4.  $r = 0.838$
5.  $r = -0.842$
6.  $r = -0.483$

2. Sandy says all scatterplots with a linear correlation coefficient close to 0 have a weak relationship. Provide an example of a scatterplot (on the blank graph below) and explain to Sandy why she is mistaken.



Images are created with the graphing calculator, used with permission from Desmos Studio PBC.

3. Travis says all scatterplots with an  $r$ -value close to 1 have strong linear associations. Provide an example of a scatterplot (on the blank graph below) and explain to Travis why he is mistaken.



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4. Below is data from a local beach that shows the number of ice cream sandwiches sold and the number of drownings on various days during the year.

Number of ice cream sandwiches sold	Number of drownings
57	7
79	6
55	6
23	2
51	4
11	0
30	2
23	3

a. Compute the linear correlation coefficient using desmos. Write the function you used below.

b. Based on the r-value from a, what is the strength and direction of the relationship. Explain.

c. Do you believe that higher ice cream sandwich sales cause more drownings on this beach? If not, what is another possible variable that could explain this relationship?

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