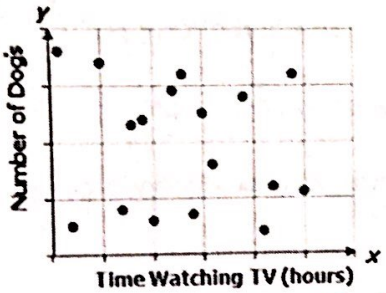
Algebra 1
Day 1: Scatterplots
Practice Assignment

Unit 11: Comparing Functions

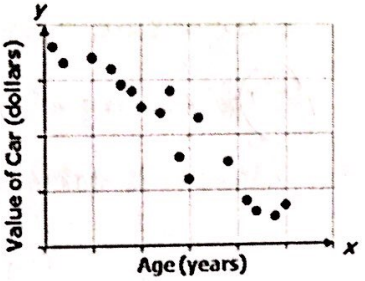
Practice

Name: Key

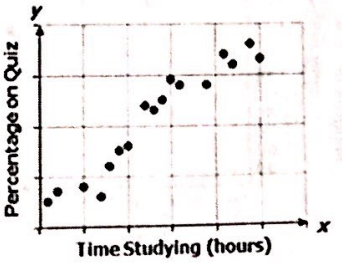
1. Determine if the following scatterplots show a positive, negative, or no correlation.



no correlation



negative

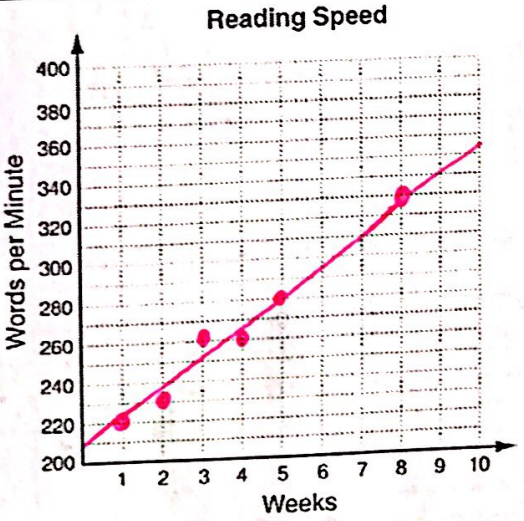


positive

2. Fawn is trying to improve her reading skills by taking a speed reading class. She is measuring how many words per minute (wpm) she can read after each week of the class.

a. Create a scatterplot for the data below:

Weeks	1	2	3	4	5
wpm	220	230	260	260	280



b. Describe the correlation illustrated by the plot. Then calculate the correlation coefficient.

Strong positive correlation

$r = .97$

c. Draw a trend line and use it to predict the number of words per minute Fawn will read after 8 weeks of this class.

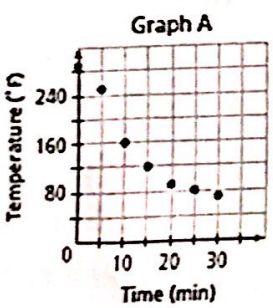
330 words per minute

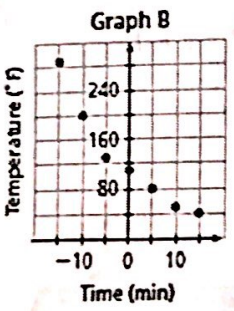
d. Fawn is paying for the classes out of pocket. Identify the type of correlation between number of classes and her bank account balance.

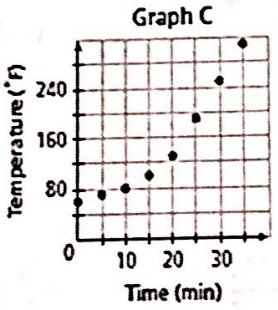
negative (the more classes she takes, the less money in her account)

3. Choose the scatterplot that best represents the relationship between the number of minutes since a pie has been taken out of the oven and the temperature of the pie. Explain why each graph fits or does not fit the above scenario.

decrease over time





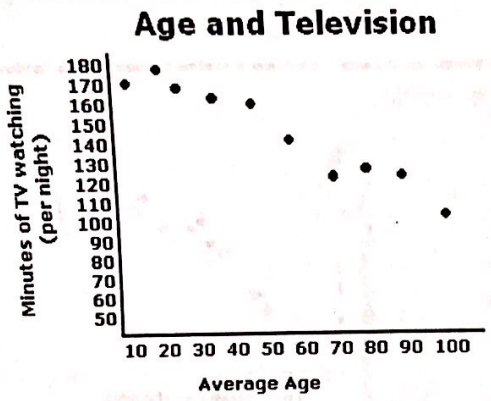


Graph A: correct graph
- temperature decreases over time

Graph B:
- should not have negative time

Graph C:
- temperature should be decreasing, not increasing

4. What can be concluded from the scatterplot below?



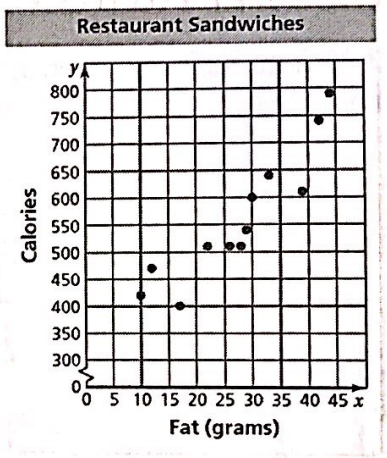
A. The older a person gets, the more television they watch.

B. As a person gets older, their taste in television changes.

C. The older a person gets, the less television they watch.

D. There is no relationship between age and television watching.

5. The scatterplot shows the number of fat (grams) in a restaurant sandwich and the number of calories.



a. How many grams of fat would you predict to be in a sandwich that contains 650 calories?

about 35 grams of fat

b. How many calories would you predict to be in a sandwich with 20 grams of fat?

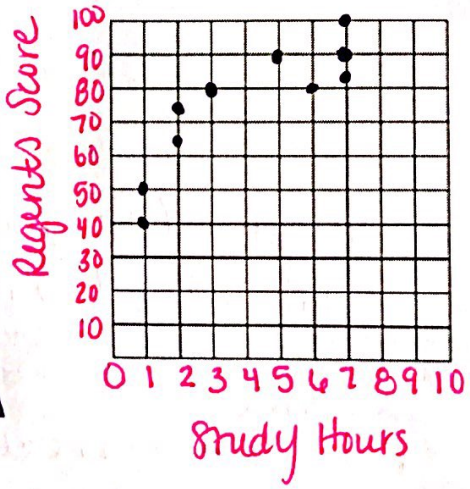
about 450 calories

6. Make a scatterplot for each data set. Then find the correlation coefficient using your calculator.

a.

Study Hours	Regents Score
3	80
5	90
2	75
6	80
7	90
1	50
2	65
7	85
1	40
7	100

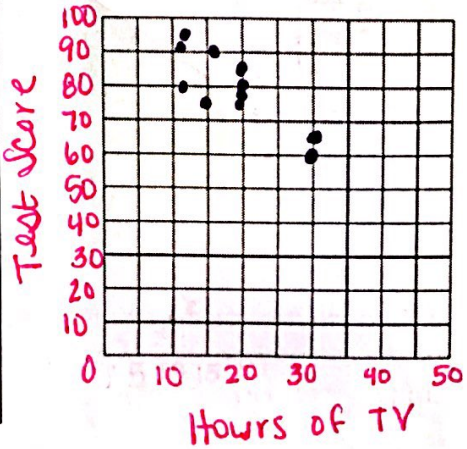
r = .85



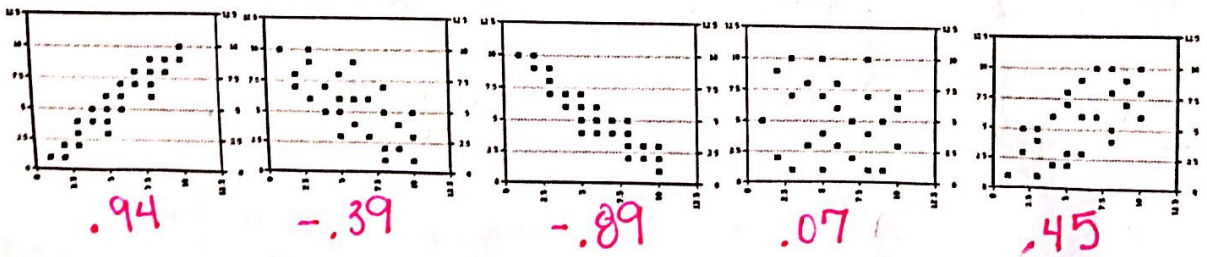
b.

TV Hrs/week	Test Score
30	60
12	80
30	65
20	85
~~10~~	~~95~~
20	78
15	75
12	95
15	75
11	90
16	90
20	80
19	75

r = -.79



7. Match the graph with its correlation coefficient.



Choices

~~A.~~ r = 0.45

~~B.~~ r = 0.94

~~C.~~ r = 0.07

D. r = -0.39

E. r = -0.89