

Algebra I

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Hour: \_\_\_\_\_

### Homework 1.7 – Lines of Best Fit

1.) If the coefficient of the correlation is 1 or -1, what does this tell you about the data points and the line of best fit?

2.) What does a correlation coefficient very close to + 1 tell you?

3.) What does a correlation coefficient very close to – 1 tell you?

4.) What does a correlation of 0.23 tell you?

Use the table below to answer questions 5 -7.

City	Miles	Minutes
Jacksonville	270	64
St. Louis	484	102
Pittsberg	526	89
New York	765	120
Minneapolis	906	154
Boston	946	145
Denver	1208	190
Phoenix	1587	236
Los Angeles	1946	286
San Francisco	2139	312

5.) What tends to happen to the minutes as the miles increase?

6.) Is the correlation positive or negative?

7.) The line of best fit rises and fits the points quite well. What does this tell you about the numerical value of the correlation?

For numbers 8-11, tell whether the given correlation coefficient describes a line of best fit that rises or falls. Also, tell whether the line is a good fit or not.

8.) 0.09

9.) -0.92

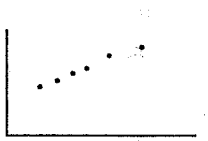
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10.) 0.89

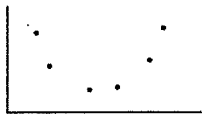
11.) -0.45

For 12 and 13, tell whether the correlation coefficient for the scatter plot is nearest to -1, 0, or 1.

12.)



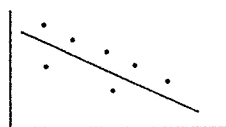
13.)



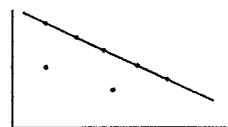
14.) Given the scatter plot, which line best fits the points? Explain.



Scatter plot



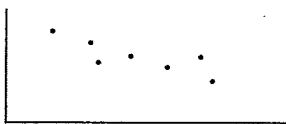
Line 1



Line 2

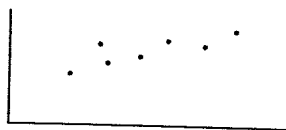
For questions 15-17, match the scatter plot to the correlation.

15.)



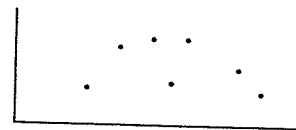
A.) -0.9

16.)



B.) 0.2

17.)



C.) 0.9

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18.) The chart below shows how food items that cost \$1.00 in 1982 have increased in cost over the years. Make a scatter plot, and use a straightedge to estimate the line of best fit.

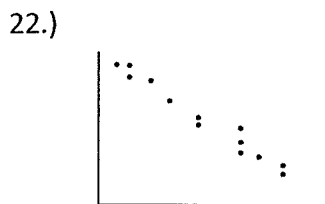
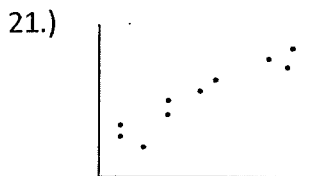
<b>Year</b>	1982	1985	1988	1991
<b>Cost</b>	1.00	1.06	1.18	1.36

For numbers 19 and 20, find the next 2 terms of each sequences.

19.) 1, 4, 7, 10, 13, \_\_\_\_\_, \_\_\_\_\_.

20.) 2, 5, 10, 17, 26, \_\_\_\_\_, \_\_\_\_\_.

For numbers 21 and 22, describe the correlation as strong positive, strong negative, or little or none.



Tell whether the given correlation coefficient describes a line of best fit which rises or falls. Also, tell whether it is a good fit or not.

23.) 0.02

24.) -0.95

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25.) Tell whether the correlation coefficient for the scatter plot in 23 is nearest to -1, 0, or 1.

26.) Tell whether the correlation coefficient for the scatter plot in 24 is nearest to -1, 0, or 1.

For number 27, make a scatter plot of the data below.

Minutes Studying	15	12	20	30	25	40	60	50	55	45
Test Score										

27.)

28.) Describe the correlation as strong positive, strong negative, or little, or none.

29.) Use a straightedge to estimate the line of best fit for this scatter plot.

