

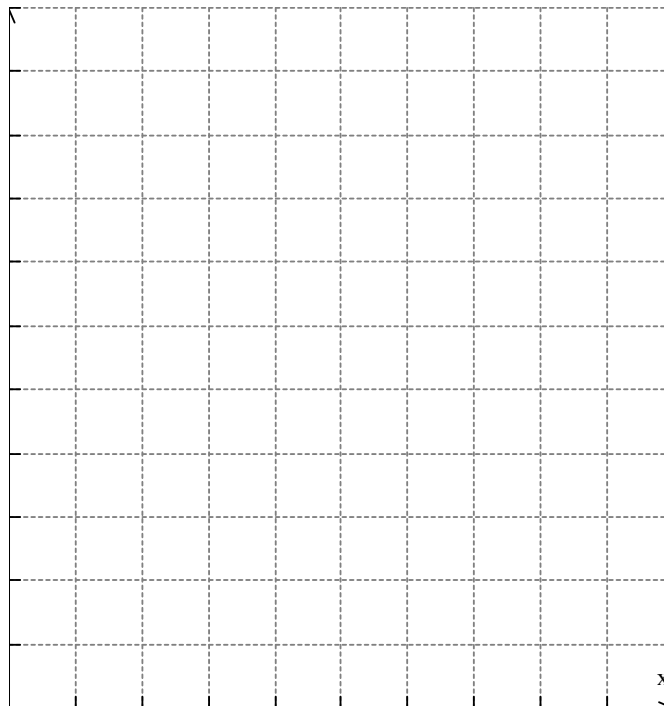
A \_\_\_\_\_ is a line drawn on a scatter plot close to most of the data points. It can be used to estimate data on a graph.

### Finding a Line of Fit

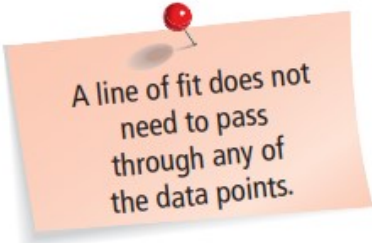
Ex:) The table shows the number of absences in a school year and the final exam scores for several students. (a) Make a scatter plot of the data and draw a line of fit. (b) Write an equation of the line of fit. (c) Interpret the slope and y-intercept of the line of fit.

Notes:

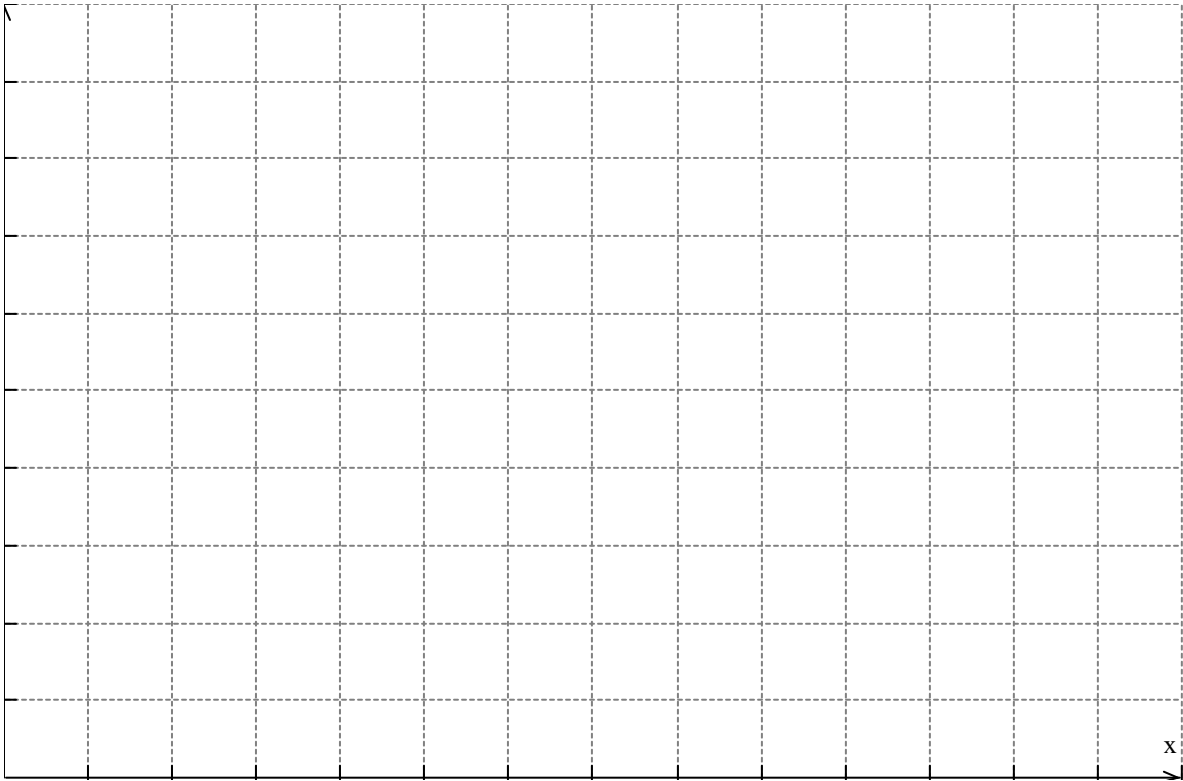
Absences, $x$	Final Exam Score, $y$
0	97
3	88
2	93
5	83
7	73
9	70
5	88
1	94
9	65
8	73



OYO:) The table shows the number of practice sessions and the number of errors made on a typing test for several students. (a) Make a scatter plot of the data and draw a line of fit. (b) Write an equation of the line of fit. (c) Interpret the slope and the y-intercept of the line of fit.



<b>Practice Sessions, <math>x</math></b>	1	2	3	3	4	5	5	6
<b>Errors, <math>y</math></b>	4	3	2	1	2	1	0	0



Graphing calculators use \_\_\_\_\_ to find a \_\_\_\_\_.

Calculators can give a value  $r$ , called the \_\_\_\_\_.

Values of  $r$  range from \_\_\_\_\_ to \_\_\_\_\_, with values close to \_\_\_\_\_ indicating a strong negative correlation, values close to \_\_\_\_\_ indicating a strong positive correlation, and the values close to \_\_\_\_\_ indicating no correlation.

## Identifying Relationships

Ex:) The table shows the numbers of goals scored and games won by 8 hockey teams. Use a graphing calculator to find an equation of the line of best fit. Identify and interpret the correlation coefficient.

Notes:

Goals, $x$	Games Won, $y$
219	39
249	50
215	36
183	28
282	55
241	41
263	50
256	48

OYO:) Find an equation of the line of best fit for the data in Example 1. Identify and interpret the correlation coefficient.

Notes:

## Modeling Real Life

Ex:) The table shows the number of bats in a cave each year from 2010 to 2017, where  $x = 0$  represents the year 2010. Assuming this trend continues, in what year will there be 65,000 bats in the cave?

Notes:

Year, $x$	Bats (thousands), $y$
0	327
1	306
2	299
3	270
4	254
5	232
6	215
7	197

OYO:) The ordered pairs show amounts  $y$  (in inches) of rainfall equivalent to  $x$  inches of snow. About how many inches of rainfall are equivalent to 6 inches of snow? Justify your answer.

(16, 1.5) (12, 1.3) (18, 1.8) (15, 1.5) (20, 2.1) (23, 2.4)