

Line of Best Fit

The “**point-slope form**” of an equation is as follows: $y - y_1 = m(x - x_1)$

...where x and y are variables

...where (x_1, y_1) is a given point

...where m is the slope of the line

Answer each of the following...

- [1] A line contains the points (2, 3) and (5, 9). Determine the slope of this line.
- [2] Use your answer to problem [1] for the slope, and use the point (2, 3) for (x_1, y_1) to write an equation for this line in **point-slope form**.
- [3] Now solve your answer for problem [2] to get the variable y alone, which will give you the equation in slope-intercept format.

For each of the following, plot the data and determine a line of best fit.

[4]

X	10	25	5	40	30	20	15	35
Y	25	62	13	100	75	48	39	88

[5]

X	0.4	0.5	0.3	0.7	0.2	0.8	0.1	0.6
Y	5	5	6	2	8	1	8	3

- [6] Find a line of best fit for the price of Microsoft stock from the data given below.

Year	1994	1995	1996	1997	1998	1999	2000	2001
(X = ?)	(X = 4)	(X = 5)	(X = 6)	(X = 7)	(X = 8)	(X = 9)	(X = 10)	(X = 11)
Y	11.70	11.95	12.28	12.54	12.77	13.00	13.26	13.55

- [7] Use your result from problem [6] to predict the value of Microsoft stock in the year 2011.