

4.5 Practice B

In Exercises 1 and 2, use residuals to determine whether the model is a good fit for the data in the table. Explain.

1. $y = \frac{3}{2}x - 10$

x	2	4	6	8	10	12	14	16	18
y	-1	-1	1	2	5	6	8	10	14

2. $y = -2x + 56$

x	1	2	3	4	5	6	7	8	9
y	52	50	48	47	45	42	41	38	35

In Exercises 3 and 4, use a graphing calculator to find an equation of the line of best fit for the data. Identify and interpret the correlation coefficient.

3.

x	-12	-8	-4	0	4	8	12	16	20
y	48	42	37	31	29	24	19	14	7

4.

x	3	4	5	6	7	8	9	10	11
y	20	36	15	32	12	28	17	16	24

5. The table shows the average number of minutes y per kilometer for runners and the total distance of a running race, x (in kilometers).

x	3.1	6.2	9.3	12.4	15.5	18.6	21.7	24.8	27.9
y	5.4	5.6	5.7	5.9	6.0	6.1	6.3	6.5	6.9

- Use a graphing calculator to find an equation of the line of best fit.
- Identify and interpret the correlation coefficient.
- Interpret the slope and y -intercept of the line of best fit.
- Approximate the average number of minutes per kilometer when the distance of a race is 31 kilometers.