

CHAPTER
4

Chapter Test A *continued*
For use after the chapter "Writing Linear Equations"

Write an equation for a linear function f that has the given values.

12. $f(-3) = 2$ and $f(1) = 0$ 13. $f(3) = -3$ and $f(4) = 1$

In Exercises 14 and 15, use the following information.

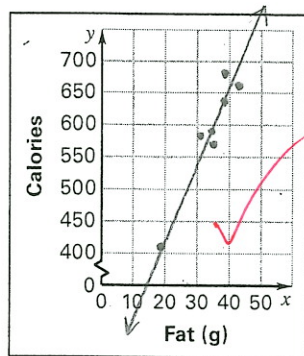
For a school band fundraiser, students are selling seat cushions for \$4 each and license plate holders for \$6 each. One student raises \$304.

14. Write an equation in standard form of the line that models the possible combinations of seat cushions and license plate holders the student sold.
15. List two of these possible combinations.
16. Write an equation of the line that passes through the point $(4, 7)$ and is (a) parallel to and (b) perpendicular to the line $y = \frac{1}{2}x - 1$.

In Exercises 17–20, use the table that shows the number of calories in grams of fat.

Fat (g)	31	39	19	34	43	39	35
Calories	580	680	410	590	660	640	570

17. Make a scatter plot of the data.



$(39, 640)$ $(19, 410)$
 $m = \frac{640 - 410}{39 - 19} = \frac{230}{20}$
 $m = 11.5$
 $410 = 11.5(19) + b$
 $410 = 218.5 + b$
 $191.5 = b$
 $y = 11.5x + 191.5$

Extra credit

18. Describe the correlation.
19. Draw a line of fit for the data.
20. Use the line of fit from Exercise 19 to predict the number of calories in a hamburger that contains 28 grams of fat.

Find the zero of the function.

21. $f(x) = x - 8$
 $0 = x - 8$
 $8 = x$
22. $f(x) = 3x + 9$
 $0 = 3x + 9$
 $-9 = 3x$
 $-3 = x$
23. $f(x) = \frac{1}{2}x - 1$
 $0 = \frac{1}{2}x - 1$
 $1 = \frac{1}{2}x$
 $2 = x$

Answers

12. $y = -\frac{1}{2}x + \frac{1}{2}$ ✓
 13. $y = 4x - 15$ ✓
 14. $4x + 6y = 304$ ✓
 15. $x = 1, y = 50$ ✓
 $x = 70, y = 4$ ✓
 16. (a) $y = \frac{1}{2}x + 5$ ✓
 (b) $y = -2x + 15$ ✓
 17. \downarrow ✓
 18. Positive ✓
 correlation

19. ✓
 20. About 500 calories ✓
 21. $x = 8$ ✓
 22. $x = -3$ ✓
 23. $x = 2$ ✓