

Chapter
4
Test A

- Your friend has improved in his math class. On his first test he scored 50 points, and then he scored 53, 56, 59, and 62 points on his next 4 tests. His tests continued to improve following this pattern. If he took 15 tests, how many points did he score on the last test?
- Write a linear function f with the given values.
 - $f(0) = 4, f(5) = 19$
 - $f(-5) = 32, f(0) = 22$
- How do the slopes of two parallel lines compare?
- How do the slopes of two perpendicular lines compare?

Write an equation in slope-intercept form of the line with the given characteristics.

- slope = $\frac{1}{4}$; y -intercept = 2
- slope = $-\frac{3}{2}$; passes through $(-4, 7)$
- passes through $(-2, 1)$ and $(2, -5)$
- parallel to the line $y = -3x + 5$; passes through $(-4, 5)$
- perpendicular to the line $y = \frac{1}{2}x - 8$; passes through $(7, -6)$

Write an equation in point-slope form of the line with the given characteristics.

- slope = 2; y -intercept = 3
- slope = -2; passes through $(-3, 5)$
- parallel to the line $y = \frac{3}{5}x - 8$; passes through $(0, -3)$
- perpendicular to the line $y = -2x - 7$; passes through $(-3, 10)$

Answers

- _____
- a. _____
b. _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Chapter 4 **Test A** (continued)

Determine whether the sequence is arithmetic. If so, find the common difference.

- 14. 20, 13, 6, -1, ...
- 15. 2, 4, 8, 16, ...
- 16. -1, -5, -9, -13, ...
- 17. 7, 4, 1, -1, ...
- 18. The table shows the time x (in hours) students spent studying for a science exam and the grade they received.

Time (hours), x	3	2	5	1	0	4	3
Grade, y	84	77	92	70	60	90	75

- a. Describe the correlation.
- b. Write an equation that models grade as a function of the hours spent studying.
- c. Interpret the slope and the y -intercept of the line of best fit.
- 19. Consider the data used in Exercise 18.
 - a. Use a graphing calculator to find an equation of the line of best fit.
 - b. Identify and interpret the correlation coefficient.
 - c. Predict the grade of a student who studied for 3 hours.

Determine whether the given lines are parallel, perpendicular, or neither.

- 20. $y + 5 = -12$
 $x - y = 10$
- 21. $3x - 5y = 10$
 $10x + 6y = -36$
- 22. $2x - y = 10$
 $-4x - 2y = -8$
- 23. $-2x - 3y = 9$
 $4x + 6y = 24$

Tell whether a correlation is likely in the situation. Explain your reasoning.

- 24. the height of a person and the length of their stride
- 25. the number of flat tires on your car and the number of pets you own
- 26. the number of text messages sent daily and the number of meals eaten daily

Answers

- 14. _____
- 15. _____
- 16. _____
- 17. _____
- 18. a. _____

- b. _____
- c. _____

- 19. a. _____
- b. _____
- c. _____
- 20. _____
- 21. _____
- 22. _____
- 23. _____
- 24. _____

- 25. _____
- 26. _____
