

CHAPTER 5 REVIEW

Write an equation of the line with the given slope and y-intercept.

1. slope: -8; y- intercept: 0 2. Slope: $\frac{1}{4}$; y-intercept: -3

Write an equation of the line that passes through the given points.

3. (-2, 8), (7, -5.5) 4. (-5, -13.5), (2.5, 5.25)

Write an equation for the linear function f with the given values.

5. $f(6) = 2$, $f(15) = -4$ 6. $F(-9) = -14$, $f(12) = 14$

7. Swimming For exercise, you swim several times a week. Currently, you swim 5 laps each time you swim. You want to gradually increase the number of laps each time you swim. Your plan is to swim 2 additional laps each time you swim. Write an equation that gives the total number of laps you swim as a function of the number of times you have been swimming since you started adding laps. Find the total number of laps you will swim in 8 weeks if you swim 3 times a week.

Write an equation of the line that passes through the given points and has slope m .

8. (4.5, -3); $m = 0.5$

Write an equation of the line that passes through the given points.

9. (-6, -10), (9, 10)

Write an equation for the linear function f with the given values.

10. $f(-1.2) = 5$, $f(3.6) = 8$

11. A line passes through the points (3, 16), (-2, -14), and (h , 28). Find the value of h .

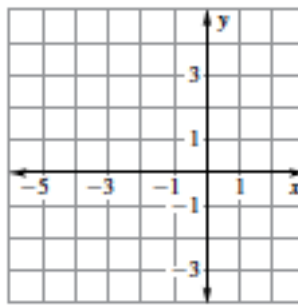
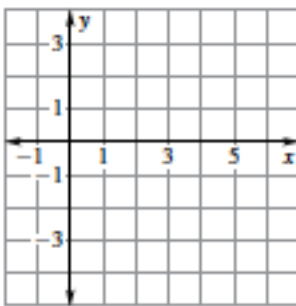
Explain your steps.

12. Car Wash You are scheduled to start your job at a car wash 2 hours after the car wash opens. Three hours after you start, a total of 47 cars have been washed since the car wash opened. Three hours later, a total of 55 cars have been washed. At what rate are the cars being washed? How many cars were washed before you started work?

Graph the equation.

13. $y + 3 = 4(x - 5)$

14. $y - 4 = (-3/2)(x + 5)$



Find the value of k so that the line that passes through the given points has slope m . Write an equation of the line in point-slope form. Use the first point to write the equation.

15. $(k, 2k)$, $(k + 3, 4k)$, $m = -2$

16. $(k, k + 7)$, $(k + 3, k + 2)$, $m = -5/3$

17. Thawing Turkey The table below shows the approximate amount of time (in hours) it should take to thaw a frozen turkey with the given weight (in pounds).

Turkey weight (pounds)	6	8	12	16
Time (hours)	28.8	38.4	57.6	76.8

a. *Explain why the situation can be modeled by a linear equation.*

37. The lines described by $y = (5a+3)x$ and $y = -\frac{1}{2}x$ are perpendicular. What is the value of a ?

ANSWERS CHAPTER 5

Practice C 5.1

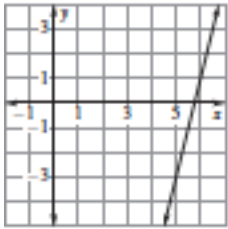
1. $y = -8x$
2. $y = 1/4x - 3$
3. $y = -1.5x + 5$
4. $y = 2.5x - 1$
5. $f(x) = -2/3x + 6$
6. $f(x) = 4/3x - 2$
7. $y = 2x + 5$; 53 laps

Practice C 5.2

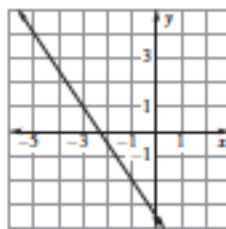
8. $y = 0.5x - 5.25$
9. $y = -3/5x + 1$
10. $f(x) = 0.625x + 5.75$
11. First find the equation of the line passing through (3, 16) and (-2, -14). The line is given by $y = 6x - 2$. Find the value of h by substituting 28 for y and solving for x . $h = 5$
12. about 2.7 cars per hour; 39 cars

Practice C 5.3

13.



14.



15. $k = -3$; $y + 6 = -2(x + 3)$
16. $k = -2$; $y - 5 = -5/3(x + 2)$
17. a. The slopes between all pairs of points are the same.
 - b. $y - 28.8 = 4.8(x - 6)$
 - c. 45.6 h
 - d. the temperature of the turkey and the temperature of the refrigerator
18. $y + 3 = 2/3(x - 9)$
19. $Y + 6 = 5/2(x + 4)$

Practice C 5.4

20. $3x + 4y = -4$
21. $x + 2y = 3$
22. 2
23. -3

Practice C 5.5

24. $y = -4x$
25. $Y = 6/5x + 73/5$
26. $y = -2/3x + 25/3$
27. $Y = -6/5x - 63/5$
28. a and b are perpendicular

31. a. Sample answer: $y = 330.6x + 78,324$

b. no; People now live in most areas of the country, so governments should already be established.

30. Vertical Stretch with reflection by a factor of $-5/3$, vertical translation up 7 units, horizontal translation right 2 units; opens down, maximum value; 7, axis of symmetry is $x = 2$, vertex is (2, 7)

31. Vertical stretch by a factor of 8, vertical translation down 3 units; axis of symmetry is $x = 0$, opens up, minimum

value; -3; vertex is (0,-3)

32. Vertical shrink by a factor of $\frac{1}{5}$; horizontal translation 1 unit left; opens up, minimum value; 0, axis of symmetry $x=-1$, vertex (-1,0)

33. none are parallel or perpendicular

34. lines a and b are perpendicular; none are parallel

35. 1

36. 4

37. $-\frac{1}{5}$