Chapter 5

Extra Practice: Skills and Word Problems

Lesson 5-1 **Sketch a graph to describe each situation. Label each section of the graph.**

1. the number of apples on a tree over one year

2. the amount of milk in your bowl as you eat cereal

3. the energy you use in a 24-h period

4. your distance from home plate after your home run

Lesson 5-2 **Find the range of each function when the domain is $\{-4, -1, 0, 3\}$.**

5. $y = 6x - 5$ **6.** $y = |x| - 2$ **7.** $y = x^2 + 3x + 1$

8. $y = \frac{1}{2}x + 8$ **9.** $y = -x^2 - x$ **10.** $y = \frac{2}{3}x$

Use a mapping diagram to determine whether each relation is a function.

11. $\{(1, 2), (2, 3), (3, 4), (4, 5), (5, 6)\}$ **12.** $\{(5, 2), (1, 3), (4, 7), (5, 6), (0, 4)\}$

13. $\{(3.4, 2), (5.6, 2), (0.1, 2), (2.8, 2)\}$ **14.** $\{(6, 7), (5, 2), (7, 7), (4, 3), (0, 0)\}$

Lesson 5-3 **Graph each function.**

15. $y = 2x + 1$ **16.** $y = 4 - x$ **17.** $y = |x| - 3$

Lesson 5-4 **Write a function rule for each table.**

18.

x	$f(x)$
-3	-1
-1	1
1	3
3	5

19.

x	$f(x)$
0	0
3	6
6	12
9	18

20.

x	$f(x)$
21	14
25	18
29	22
33	26

21.

x	$f(x)$
-8	-4
-6	-3
-4	-2
-2	-1

Lesson 5-5 **Graph the direct variation that includes the given point. Write the equation of the line.**

22. $(5, 4)$ **23.** $(7, 7)$ **24.** $(-3, -10)$ **25.** $(4, -8)$ **26.** $(-2, 9)$

Lesson 5-6 **Find the constant of variation k for each inverse variation.**

27. $y = 10$ when $x = 7$ **28.** $y = -8$ when $x = 12$ **29.** $y = 0.2$ when $x = 4$

Each pair of points is on the graph of an inverse variation. Find the missing value.

30. $(5.4, 3)$ and $(2, y)$ **31.** $(x, 4)$ and $(5, 6)$ **32.** $(3, 6)$ and $(9, y)$

33. $(100, 2)$ and $(x, 25)$ **34.** $(6, 1)$ and $(x, -2)$ **35.** $(8, y)$ and $(-2, 4)$

Lesson 5-7 **Find the second and fifth terms of each sequence.**

36. $A(n) = 22 + (n - 1)11$ **37.** $A(n) = -2 + (n - 1)(-2)$

38. $A(n) = -2 + (n - 1)$ **39.** $A(n) = 1 + 4(n - 1)$