Name _____ Class _____ Date _____

Chapter Test Form A

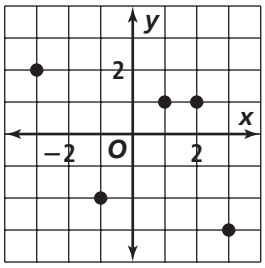
Chapter 2

Find the domain and range of each relation, and determine whether it is a function.

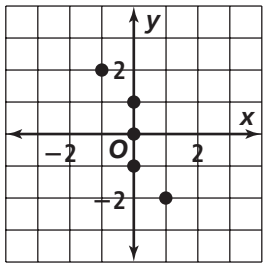
1. $\{(2, 1), (-4, 5), (1, 7), (2, -3), (-1, 2)\}$

2. $\{(1, -1), (2, -2), (3, -3), (4, -4), (5, -5)\}$

3.



4.



5. Draw a mapping diagram for the relation $\{(-3, 2), (-1, 0), (1, 2), (3, 4)\}$. Is the relation a function? Explain.

Suppose $f(x) = 3x - 4$ and $g(x) = |x| + 3$. Find each value.

6. $f(2)$

7. $f\left(\frac{1}{3}\right) + g(-2)$

8. $\frac{f(1)}{g(1)}$

Find the constant of variation for each direct variation. Then find the value of y when $x = \frac{3}{4}$.

9. $y = 2$ when $x = 6$

10. $y = \frac{2}{3}$ when $x = \frac{1}{4}$

11. The diameter of a tree varies directly as its age. A 15-year old tree is 3.75 in. in diameter. How old will the tree be when it is 25 in. in diameter?

Find the slope of each line.

12. $3x - 5y = 15$

13. through $(-2, 7)$ and $(4, 1)$

14. through $(6, 1)$ and perpendicular to $y = \frac{3}{2}x + \frac{1}{4}$

Graph each function.

15. $y = \frac{1}{2}x + 1$

16. $y = |x + 2| - 3$

17. $y = -|x| + 4$

18. $y = 3 - 2x$

Write in standard form the equation of the line with the given slope through the given point.

19. slope $= 6; \left(\frac{1}{2}, 2\right)$

20. slope $= \frac{1}{4}; (4, 3)$

21. slope $= -2; (0, 0)$

Write in slope-intercept form the equation of the line through each pair of points.

22. $(0, 0)$ and $(-2, 3)$

23. $(1, 5)$ and $(-3, 3)$

24. $(-4, 1)$ and $(-2, -2)$

Chapter Test (continued) Form A

Chapter 2

25. The table below displays the enrollment at Westside High during the years 1996–2001.

Year	Enrollment
1996	1582
1997	1635
1998	1674
1999	1723
2000	1745
2001	1801

a. Make a scatter plot of the data, and draw a trend line.

b. Write the equation of the trend line.

c. Estimate the enrollment in 2006.

Describe each translation of $y = |x|$ as vertical, horizontal, or combined. Then graph each translation.

26. $y = |x + 3| - 2$

27. $y = |x| + 2$

28. $y = |x - 4|$

Graph each inequality.

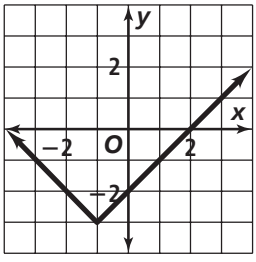
29. $2x + y > 3$

30. $2x + 3y \geq -6$

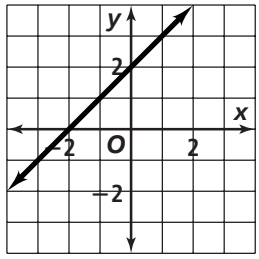
31. $x + y < 0$

Write an equation for each function.

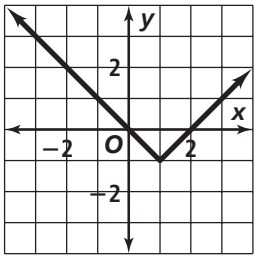
32.



33.



34.



35.