Name _____ Class _____ Date _____

6-7 Practice

Form G

Inverse Relations and Functions

Find the inverse of each relation. Graph the given relation and its inverse.

1.

x	–2	–1	0	1
y	–3	–2	–1	0

3.

x	–3	–1	1	2
y	–1	0	1	3

Find the inverse of each function. Is the inverse a function?

5. $y = x^2 + 2$

7. $y = 3(x + 1)$

9. $y = 2x - 1$

11. $y = 5x^2$

13. $y = 6x^2 - 4$

15. $y = (x + 4)^2 - 4$

Graph each relation and its inverse.

17. $y = \frac{x + 3}{3}$

19. $y = 2x + 5$

21. $y = (x + 2)^2$

For each function, find the inverse and the domain and range of the function and its inverse. Determine whether the inverse is a function.

23. $f(x) = \frac{1}{6}x$

25. $f(x) = x^2 - 2$

27. $f(x) = \sqrt{x-1}$

29. $f(x) = 3 - x$

31. $f(x) = \frac{1}{\sqrt{x}}$

33. The formula $s = 0.04n + 2500$ gives an employee's monthly salary s, in dollars, after selling n dollars in merchandise at an appliance store.

a. Find the inverse of the function. Is the inverse a function?

b. Use the inverse to find the amount of merchandise sold if the employee's salary was $2820 last month.

Let $f(x) = 2x + 5$. Find each value.

35. $(f^{-1} \circ f)(-1)$

37. $(f \circ f^{-1})(-\frac{1}{2})$