5. $x = \frac{y-5}{3}$; $-\frac{8}{3}$

6. $x = \frac{y+2}{-7}$; $\frac{1}{7}$

7. $x = 2y + 6$; 0

8. $x = -\frac{3y-3}{2}$; 6

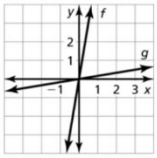
9. $x = \sqrt[3]{\frac{y}{3}}$; -1

10. $x = \pm\sqrt[4]{\frac{y+5}{2}}$; ± 1

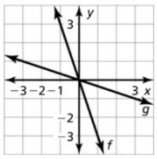
11. $x = 2 \pm \sqrt{y+7}$; 0, 4

12. $x = \sqrt[3]{y+1} + 5$; The input is $\sqrt[3]{-2} + 5$ when the output is -3.

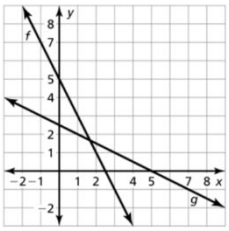
13. $g(x) = \frac{1}{6}x$;



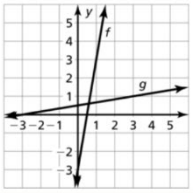
14. $g(x) = -\frac{1}{3}x$;



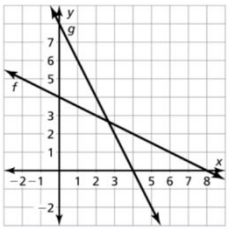
15. $g(x) = \frac{x-5}{-2}$;



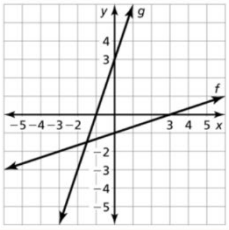
16. $g(x) = \frac{x+3}{6}$;



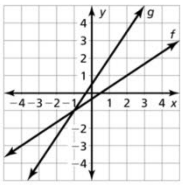
17. $g(x) = -2x + 8$;



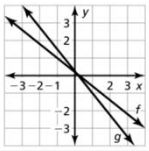
18. $g(x) = 3x + 3$;



19. $g(x) = \frac{3x+1}{2}$;



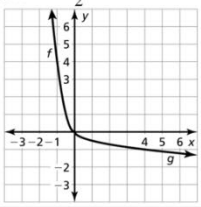
20. $g(x) = \frac{5x-1}{-4}$;



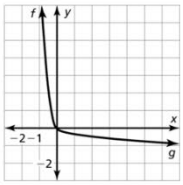
21. $g(x) = \frac{x-4}{-3}$; *Sample answer:* switching x and y; You can graph the inverse to check your answer.

22. **a.** yes; The x- and y-coordinates are switched.
b. no; The x- and y-coordinates were not switched.
c. no; The x- and y-coordinates were not switched.

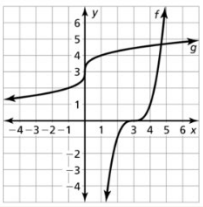
23. $g(x) = -\frac{\sqrt{x}}{2}$;



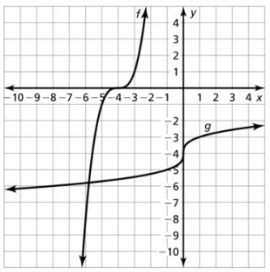
24. $g(x) = -\frac{\sqrt{x}}{3}$;



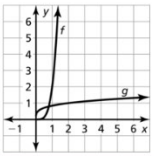
25. $g(x) = \sqrt[3]{x} + 3$



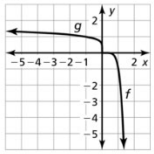
26. $g(x) = \sqrt[3]{x} - 4$;



27. $g(x) = \sqrt[4]{\frac{x}{2}}$;



28. $g(x) = \sqrt[6]{-x}$;



29. When switching x and y, the negative should not be switched with the variables;

$y = -x + 3$

$x = -y + 3$

$-x + 3 = y$

30. The inverse should only be $y = \sqrt{7x}$ because the domain of f is $x \geq 0$.

$f(x) = \frac{1}{7}x^2, x > 0$

$y = \frac{1}{7}x^2$

$x = \frac{1}{7}y^2$

$7x = y^2$

$\sqrt{7x} = y$

31. no; The function does not pass the horizontal line test.

32. no; The function does not pass the horizontal line test.

33. no; The function does not pass the horizontal line test.

34. yes; The function passes the horizontal line test.

35. yes; $g(x) = \sqrt[3]{x+1}$

36. yes; $g(x) = \sqrt[3]{-x+3}$