Inverse Functions

Determine whether the following functions are 1 to 1 by the Horizontal Line Test.

1. $f(x) = 2x - 3$
2. $f(x) = 3x + 1$
3. $f(x) = (x + 3)^2$
4. $f(x) = (x - 4)^2$
5. $f(x) = \sqrt{x + 1}$
6. $f(x) = \sqrt{x - 3}$
7. $f(x) = x^3 - 2$
8. $f(x) = x^3 + 1$
9. $f(x) = [x + 3]$
10. $f(x) = [x - 2]$
11. $f(x) = \frac{1}{x-4}$
12. $f(x) = \frac{1}{x+2}$
13. $f(x) = \frac{1}{(x+3)^2}$
14. $f(x) = \frac{1}{(x-1)^2}$

Determine the inverse function for the following 1 to 1 functions.

15. $f(x) = 3x - 4$
16. $f(x) = 2x + 3$
17. $f(x) = 2x + 5$
18. $f(x) = 4x + 1$
19. $f(x) = \sqrt{x}$
20. $f(x) = \sqrt{x - 2}$
17. $f(x) = \sqrt{x - 4}$
18. $f(x) = \sqrt{x + 2}$
19. $f(x) = x^2 \; for \; x \geq 0$
20. $f(x) = x^2 + 2 \; for \; x \geq 0$
21. $f(x) = x^2 - 2 \; for \; x \geq 0$
22 $f(x) = x^2 - 1 \; for \; x \geq 0$
23. $f(x) = (x + 4)^2 \; for \; x \geq -4$
24. $f(x) = (x - 1)^2 \; for \; x \geq 1$
25. $f(x) = \frac{1}{x}$
26. $f(x) = \frac{1}{x+2}$
27. $f(x) = \frac{1}{x-3}$
28. $f(x) = \frac{1}{x+3}$
29. $f(x) = x^3$
30. $f(x) = x^3 - 2$
31. $f(x) = x^3 + 1$
32. $f(x) = x^3 + 4$

33. $f(x) = \sqrt[3]{x}$

34. $f(x) = \sqrt[3]{x-3}$

35. $f(x) = \sqrt[3]{x+2}$

36. $f(x) = \sqrt[3]{x-2}$

37. $f(x) = \frac{x+1}{x-3}$

38. $f(x) = \frac{x-2}{x+4}$