Inverse Functions
Part 1
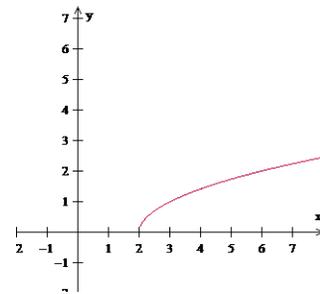
1. Show that f and g are inverse functions a) analytically and b) graphically (similar to p.44 #1-7)
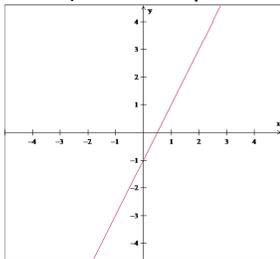
$$f(x) = x^3 - 5 \quad g(x) = \sqrt[3]{x+5}$$

2. Show that f and g are inverse functions a) analytically and b) graphically (similar to p.44 #1-7)

$$f(x) = \frac{2}{3-x} \quad g(x) = \frac{3x-2}{x}$$

3. Find the graph of the inverse function of the given graph (similar to p.44 #9-11)

4. Use the horizontal line test to determine whether the function is one-to-one on its entire domain and therefore has an inverse function (similar to p.44 #13-15)

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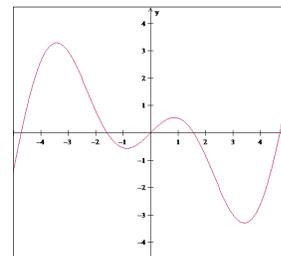
6. Use a graphing utility to graph the function. Determine whether the function is one-to-one on its entire domain and therefore has an inverse function (similar to p.44 #17-21)

$$f(x) = \frac{x^2}{x^2 - 2}$$

7. Determine whether the function is one-to-one on its entire domain and therefore has an inverse function (similar to p.44 #23-27)

$$f(x) = x^3 + x - 4$$

8. Find the inverse function of f(x) (similar to p.44 #29-41)

$$f(x) = 9x + 2$$

9. Find the inverse function of f(x) (similar to p.44 #29-41)

$$f(x) = x^3 - 2$$

10. Find the inverse function of f(x) (similar to p.44 #29-41)

$$f(x) = \sqrt{x - 3}$$

11. Find the inverse function of f(x) (similar to p.44 #29-41)

$$f(x) = \sqrt{x^2 - 9}, x \geq 3$$

12. Find the inverse function of f(x)
(similar to p.44 #29-41)

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

13. Find the inverse function of f(x)
(similar to p.44 #29-41)

$$f(x) = x^{\frac{2}{5}}, x \geq 0$$