DUE: A-day Tuesday 10/06/15, B-day Wednesday 10/07/15

Pre-Calculus: Lesson 1.6 Inverse Functions p. 67 #7-29 odd

Please complete the assignment using the "tri-fold" method (You may use www.calcchat.com to check your work):

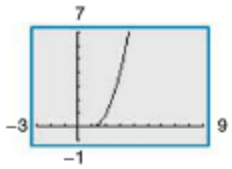
Procedures and Problem Solving

Finding Inverse Functions Informally **In Exercises 7–14, find the inverse function of f informally. Verify that $f(f^{-1}(x)) = x$ and $f^{-1}(f(x)) = x$.**

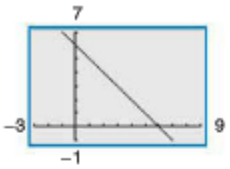
✓ **7.** $f(x) = 6x$	**8.** $f(x) = \frac{1}{3}x$
✓ **9.** $f(x) = x + 7$	**10.** $f(x) = x - 3$
11. $f(x) = 2x + 1$	**12.** $f(x) = (x - 1)/4$
13. $f(x) = \sqrt[3]{x}$	**14.** $f(x) = x^5$

Identifying Graphs of Inverse Functions **In Exercises 15–18, match the graph of the function with the graph of its inverse function. [The graphs of the inverse functions are labeled (a), (b), (c), and (d).]**

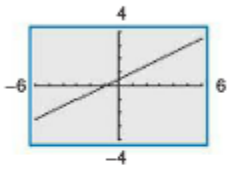
(a)



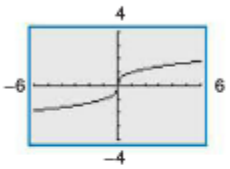
(b)



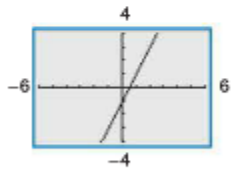
(c)



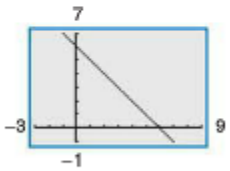
(d)



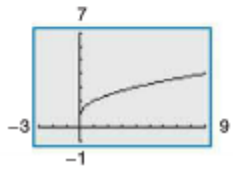
15.



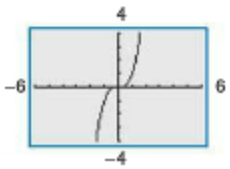
16.



17.



18.



Verifying Inverse Functions Algebraically **In Exercises 19–24, show that f and g are inverse functions algebraically. Use a graphing utility to graph f and g in the same viewing window. Describe the relationship between the graphs.**

19. $f(x) = x^3, \quad g(x) = \sqrt[3]{x}$

20. $f(x) = \dfrac{1}{x}, \quad g(x) = \dfrac{1}{x}$

21. $f(x) = \sqrt{x - 4}; \quad g(x) = x^2 + 4, \; x \geq 0$

22. $f(x) = 9 - x^2, \quad x \geq 0; \quad g(x) = \sqrt{9 - x}$

23. $f(x) = 1 - x^3, \quad g(x) = \sqrt[3]{1 - x}$

24. $f(x) = \dfrac{1}{1 + x}, \; x \geq 0; \quad g(x) = \dfrac{1 - x}{x}, \; 0 < x \leq 1$