Chapter 7 Practice Test

Name: _____   Time› Start: _____ Finish: _____ Total Time = _____

Show your work on a separate piece of paper!

$f(x) = 6x - 3$ $g(x) = 2x^2 - 1$ $h(x) = -3x + 5$ $p(x) = x^2$ $r(x) = x^2 + 4x - 1$

_____ 1. $(g + r)(x)$ _____ 2. $(f - h)(x)$

_____ 3. $(f \cdot h)(x)$ _____ 4. $(f \cdot p)(x)$

_____ 5. $(p - r)(x)$ _____ 6. $(g \cdot h)(x)$

For 7-18, let $f(x) = 2x + 3$ $g(x) = x - 10$ $h(x) = 3x - 1$ $k(x) = x^2$

_____ 7. $g(f(-3))$ _____ 8. $h(k(-2))$

_____ 9. $g(g(12))$ _____ 10. $g(k(3))$

_____ 11. $h(f(g(5)))$ _____ 12. $h(k(h(-2))$

_____ 13. $g(f(x))$ _____ 14. $f(k(x))$

_____ 15. $f(f(x))$ _____ 16. $k(h(x))$

_____ 17. $g(f(h(x)))$ _____ 18. $k(g(f(x)))$

Find the inverse of the function.

_____ 19. $f(x) = 8x - 4$

_____ 20. $f(x) = x^2 - 6$

_____ 21. $f(x) = \dfrac{2x + 5}{3}$

_____ 22. $f(x) = \dfrac{x}{4} - 1$

_____ 23. $f(x) = (3x - 1)^2$

Determine if the given two functions are inverses of each other. Answer YES or NO in the blank.
Show your work.
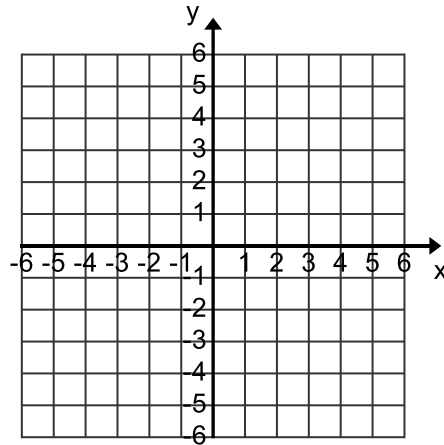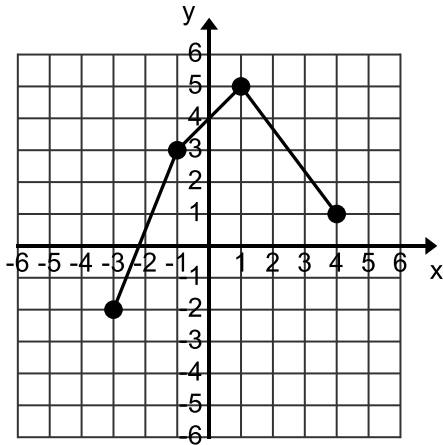REMEMBER THAT TWO FUNCTIONS ARE INVERSES IF $f(g(x)) = g(f(x)) = x$.

_____ 24. $f(x) = \dfrac{x-2}{5}$ $g(x) = 5x + 2$

_____ 25. $f(x) = \dfrac{x}{4} - 9$ $g(x) = 4x + 36$

_____ 26. $f(x) = (x - 8)^2 + 1$ $g(x) = \sqrt{x-1} + 8$

Graph the inverse of the given graph.

27.

28.