

Chapter 1 Study Guide

Name: _____ Date: _____

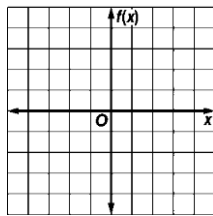
Lesson 1.4— Graph the following functions. State the parent functions and describe the transformations.

27. $g(x) = -2|x - 2|$

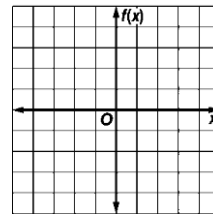
28. $g(x) = (x + 5)^2 - 3$

29. $g(x) = 2\sqrt{x} + 1$

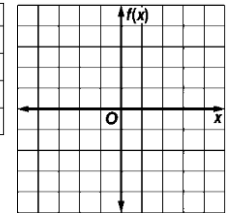
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Lesson 1.5— Find each value if $f(x) = 2x - 1$ and $g(x) = 2 - x^2$.

30. $(f + g)(4)$

32. $(fg)(2)$

34. $(f \circ g)(x)$

31. $(g - f)(x + 1)$

33. $\left(\frac{f}{g}\right)(-1)$

35. $(g \circ f)(3)$

Lesson 1.6— Find the inverses.

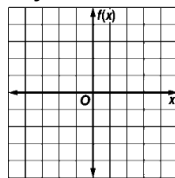
36. $f(x) = x + 2$

37. $f(x) = \frac{x-4}{3}$

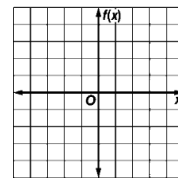
38. $f(x) = 5x^2$

Lesson 1.6— Verify the inverses ALGEBRAICALLY, GRAPHICALLY, and NUMERICALLY.

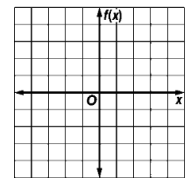
39. $f(x) = 2x + 3$
 $g(x) = 2x - 3$



40. $f(x) = 4x + 6$
 $g(x) = \frac{x-6}{4}$

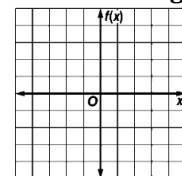


41. $f(x) = -\frac{1}{3}x + 3$
 $g(x) = -3x + 9$



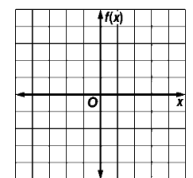
Lesson 1.6— Are the following functions one-to-one?

42. Graphically?
 $f(x) = |x + 2|$



43. Algebraically?
 $f(x) = x + 1$

44. Graphically? Algebraically?
 $f(x) = x^2$



Lesson 1.7— For the following, use a calculator.

45. The table gives the weights in tons and estimates the fuel economy in miles per gallon for several cars.

a. Sketch the scatterplot.

Weight (tons)	1.3	1.4	1.5	1.8	2	2.1	2.4
Miles per Gallon	29	24	23	21	?	17	15

b. Find the correlation coefficient, and describe the correlation. _____

c. Find the regression equation. _____

d. Use your equation to predict the missing value. _____

46. Alton has a treadmill that uses the time on the treadmill to estimate the number of Calories he burns during a workout. The table gives workout times and Calories burned for several workouts.

a. Sketch the scatterplot.

Time (min)	18	24	30	40	42	48	52	60
Calories Burned	260	280	320	380	400	440	475	?

b. Find the correlation coefficient, and describe the correlation. _____

c. Find the regression equation. _____

d. Use your equation to predict the missing value. _____