

Corrective Assignment

REVIEW SKILLS

Use the quadratic formula to solve. Express your solution(s) in exact and decimal form.

1. $10x^2 + 6x = 11$

2. $12n^2 + 10 = 8n$

Name the parent function. Then describe the transformation of the function.

3. $y = \sqrt{3x - 6} - 5$

NAME: _____

Scale:

Reflection:

Translation:

4. $y = -2(x + 3)^3 + 4$

NAME: _____

Scale:

Reflection:

Translation:

5. $f(x) = \frac{1}{3} \llbracket 3 - x \rrbracket$

NAME: _____

Scale:

Reflection:

Translation:

Given the parent function, write the equation of the following transformation.

6. $y = \frac{1}{x}$

Vertical shift up 1, horizontal shift left 2, vertical reflection

7. $y = e^x$

Vertical shift down 3, vertical stretch of 4, horizontal reflection

8. $f(x) = |x|$

Vertical shift up 5, horizontal shift left 7, horizontal shrink of $\frac{1}{4}$

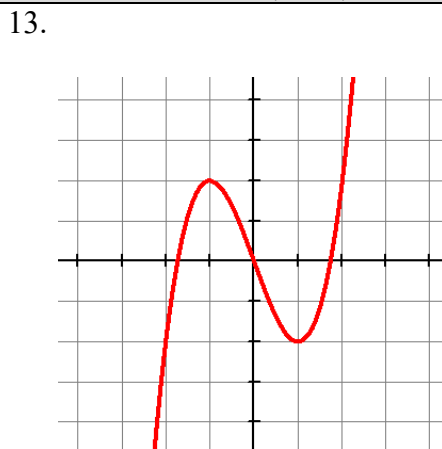
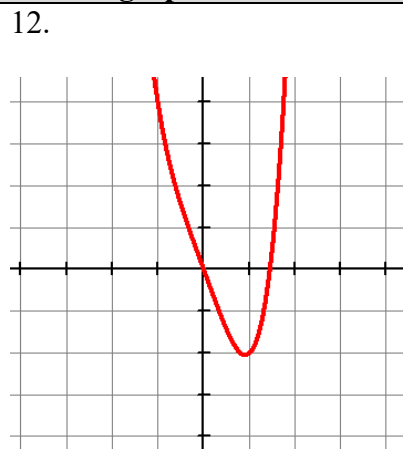
Determine algebraically if the function is even, odd, or neither.

9. $f(x) = \frac{x}{x^2 + 1}$

10. $y = |x|^3$

11. $y = x^3 - 2x - 2$

Use the graph/relation to determine if the function is even, odd, or neither.



14.

x	$f(x)$
-5	83
-2	20
0	8
2	20
5	83

For 15-23, use the following functions. State the domain when appropriate.

$$f(x) = \frac{3x - 1}{2x - 5}$$

$$g(x) = x^2 - 4$$

$$h(x) = \sqrt{10 - 3x}$$

$$k(x) = 7 - 2x$$

15. $k - g =$

DOMAIN:

16. $\left(\frac{h}{g}\right)(x) =$

DOMAIN:

17. $(gk)(2) =$

18. $h^{-1} =$

DOMAIN:

19. $(f + h)(2)$

20. $(g \circ h)(x) =$

DOMAIN:

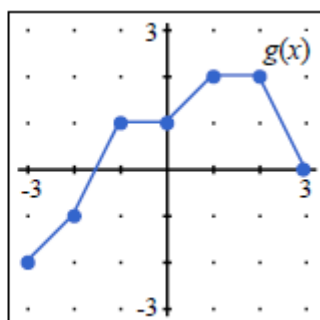
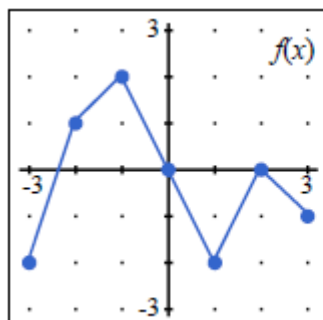
21. $f(k(-2)) =$

22. $k(g(x)) =$

DOMAIN:

23. $\left(\frac{f}{g}\right)(0) =$

For 24-27, use the graphs of $f(x)$ and $g(x)$



24. $(g + f)(2) =$

25. $(f - g)(-2) =$

26. $f(g(0)) =$

27. $(f \circ g)(-2) =$

For 28-31, use the tables of $f(x)$ and $g(x)$

x	$f(x)$
-7	4
-2	10
0	-2
3	8
5	16
8	7

x	$g(x)$
-5	3
-2	5
0	6
3	-7
5	11
10	8

28. $(f - g)(-2) =$

29. $(f + g)(0) =$

30. $f(g(-2)) =$

31. $(g \circ f)(-2) =$

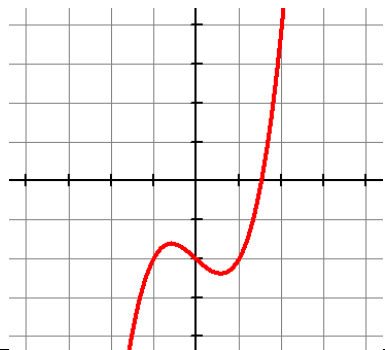
Determine if g is the inverse of f . Remember $f(g(x)) = g(f(x)) = x$

32. $f(x) = 3x - 5$ and $g(x) = \frac{x-5}{3}$

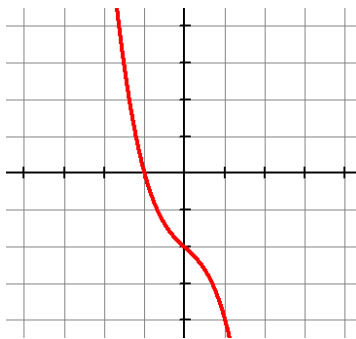
33. $f(x) = 4x^2 + 3$ and $g(x) = \frac{\sqrt{x-3}}{2}$

Is the graph/relation a function, a one-to-one function, or not a function?

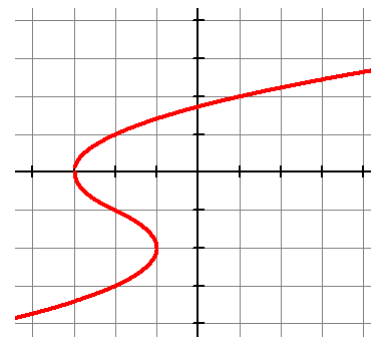
34.



35.

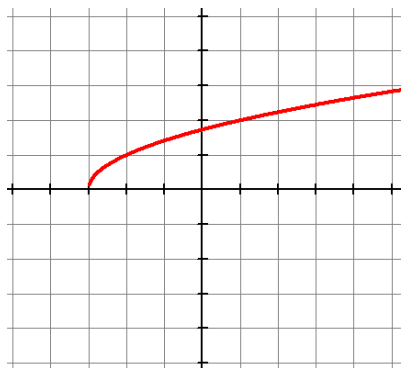


36.

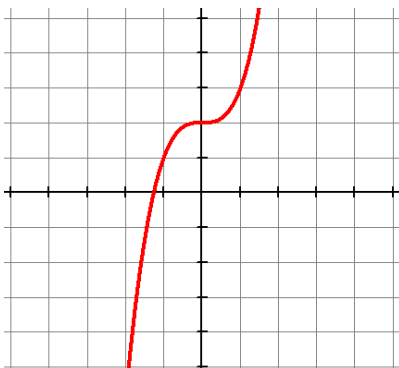


Sketch a graph of the inverse.

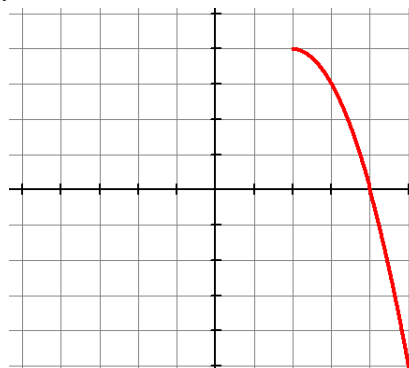
37.



38.



39.



Find f^{-1} . State the domain and range of f and the domain and range of f^{-1} .

40. $f(x) = \sqrt{x+4} + 2$

41. $f(x) = \frac{2x+3}{x-5}$

f

f^{-1}

D:

D:

R:

R:

f

f^{-1}

D:

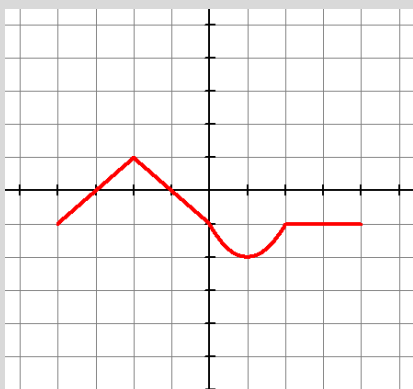
D:

R:

R:

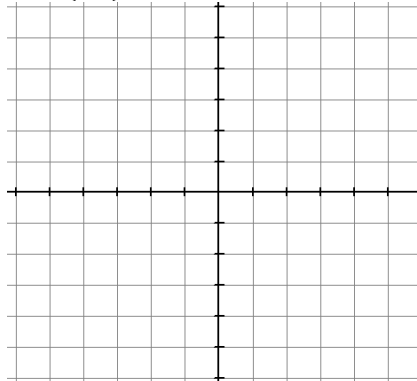
APPLICATION

Given the $h(x)$ is shown below:

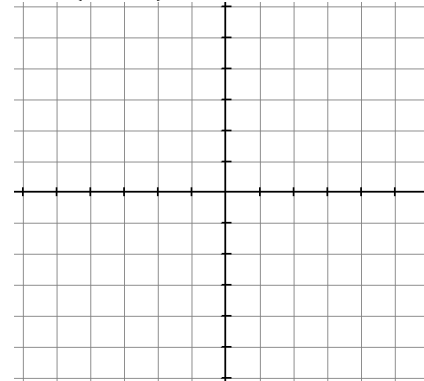


Sketch a graph of the following:

42. $-h(2x) + 1$



43. $2h(x-2) - 1$



44. Describe the transformations from the parent function $f(x)$ to $\frac{1}{3}f(5-x) + 3$.

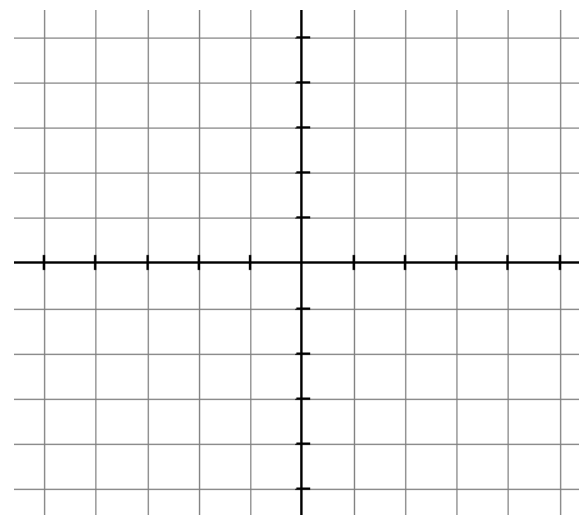
45. Given $g(x) = \frac{3}{k}x + 6$, if $g(-1) = 12$, then find k .

46. Graph $f(x) = \begin{cases} x + 2, & -5 \leq x \leq -1 \\ x^2 + 1, & -1 \leq x \leq 0 \end{cases}$

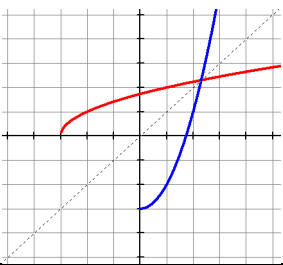
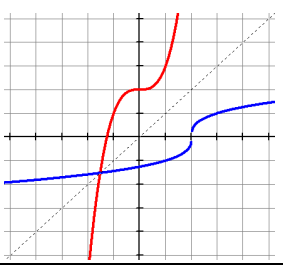
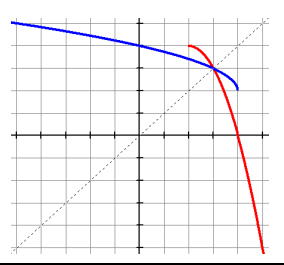
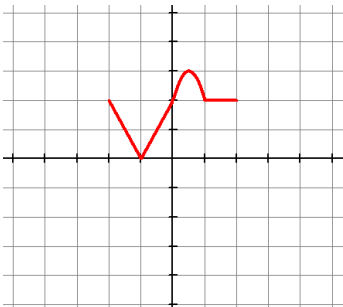
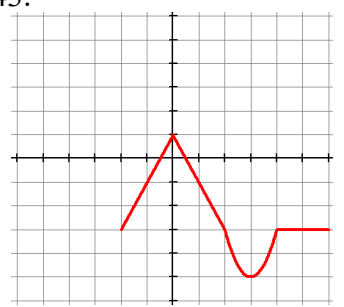
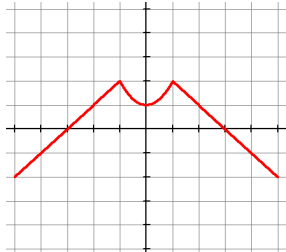
a. Given f is even, draw the graph on $[0,5]$

b. Write the equations for the graphs on $[0,5]$ $f(x) = \left\{ \right.$

c. Find the Domain and Range of $f(x)$.



ANSWERS FOR UNIT 4 CORRECTIVE ASSIGNMENT

1. $\frac{-6 \pm \sqrt{476}}{20} = \frac{-3 \pm \sqrt{119}}{10}$ ≈ 0.791 and -1.391	2. $\frac{8 \pm \sqrt{-416}}{24} = \frac{2 \pm i\sqrt{26}}{6}$ $\approx 0.\bar{3} \pm 0.849i$	3. Square Root Horizontal Shift Right 2 Vertical Shift Down 5	Horizontal Shrink of $\frac{1}{3}$ No Reflection
4. Cubic Horizontal Shift Left 3 Vertical Shift Up 4	Vertical Stretch of 2 Vertical Reflection	5. Greatest Integer Horizontal Shift Right 3	Vertical Shrink of $\frac{1}{3}$ Horizontal Reflection
6. $y = -\frac{1}{x+2} + 1$	7. $y = 4e^{-x} - 3$	8. $y = 4(x+7) + 5$	9. Odd, $f(-x) = -f(x)$
10. Even, $f(x) = f(-x)$	11. Neither, $f(x) \neq f(-x)$ and $f(-x) \neq -f(x)$	12. Neither, no symmetry	13. Odd, symmetric @origin
14. Even, $f(x) = f(-x)$	15. $-x^2 - 2x + 11$ D: $(-\infty, \infty)$	16. $\frac{\sqrt{10-3x}}{x^2-4}$ D: $(-\infty, -2)(-2, 2) \left(2, \frac{10}{3}\right)$	17. 0
18. $\frac{x^2-10}{-3}$ D: $[0, \infty)$	19. -3	20. $6 - 3x$ D: $(-\infty, \frac{10}{3}]$	21. $\frac{32}{17}$
22. $-2x^2 + 15$ D: $(-\infty, \infty)$	23. $-\frac{1}{20}$	24. 2	25. 2
26. -2	27. 2	28. 5	29. 4
30. 16	31. 8	32. NO	33. YES
34. Function	35. One-to-One Function	36. Not a Function	
37. 	38. 	39. 	40. $f^{-1}(x) = (x-2)^2 - 4$ f D: $[-4, \infty)$ R: $[2, \infty)$ f^{-1} D: $[2, \infty)$ R: $[-4, \infty)$
41. $f^{-1}(x) = \frac{5x+3}{x-2}$ f D: $(-\infty, 5)(5, \infty)$ R: $(-\infty, 2)(2, \infty)$ f^{-1} D: $(-\infty, 2)(2, \infty)$ R: $(-\infty, 5)(5, \infty)$	42. 	43. 	44. Horizontal Shift Right 5 Vertical Shift Up 3 Vertical Shrink $\frac{1}{3}$ Reflect about y-axis
45. $k = -\frac{1}{2}$	46. 	$g(x) = \begin{cases} x^2 + 1, & 0 \leq x \leq 1 \\ -x + 3, & 1 \leq x \leq 5 \end{cases}$	D: $[-5, 5]$ R: $[-2, 2]$