Free Seat Tuesday!

Homework Questions

Chapter 1 Test Review

1. Find the equation of the line parallel to $2x+3y=5$ through the point (-8, 3).

2. What is the slope of a vertical line? a horizontal line?

3. Graph $3x^3-5x^2-6x+2$ on your calculator.
   a. find the relative maximum, relative minimum and intervals of increase, decrease and where the function is constant (if possible).
   b. is this function even, odd or neither?
   c. is this function one - to - one?

4. Find the domain in interval notation (no calc).
   a. $f(x)=4x^3-6x^2+1$ b. $f(x)=5\sqrt{3x+2}$ c. $f(x)=\dfrac{2}{2x-1}$

5. Determine if the relation is even, odd or neither, algebraically.
   a. $f(x)=2x^3-x^2$ b. $f(x)=4x^2+3$

6. Graph the piecewise function. $f(x)=\begin{cases}3x-2, & x>1\\ -x^2+1, & x\le 1\end{cases}$
Find the value of
a. f(0) b. f(-2) c. f(5)

7. Describe the transformation of the graph and sketch using the three reference points. $f(x)=\frac{1}{2}(x-3)^3-6$

8. If (-1, 4) is a point on F(x) find its transformation on $-\frac{1}{2}f(x-2)+1$

9. Find the inverse of $y=x^3+1$ and verify the functions are inverses.

10. Write an equation for the square root function that has been reflected over the y-axis, vertically shrunk by a factor of 4, horizontally stretched by a factor of 3, moved left 6 and down 5.

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

$-2f(2(x+\frac{1}{4})-3$

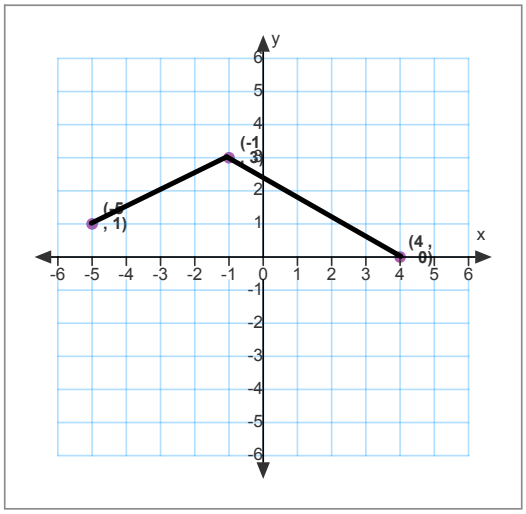
$-2f(-\frac{1}{2}x-\underset{-1/2}{\underline{4}})-3$

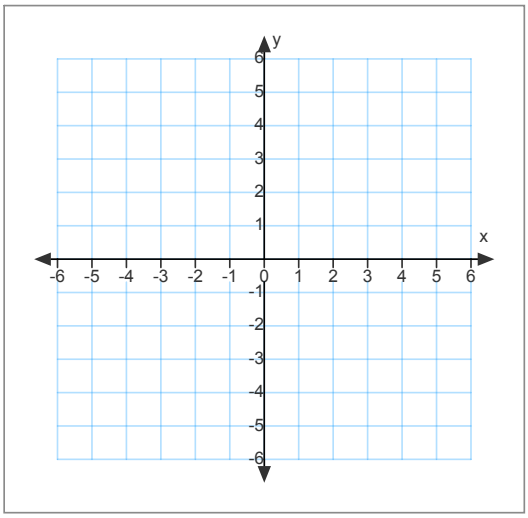
$-2f(-\frac{1}{2}(x+8))-3$

11. Which of the following are functions? Show your work algebraically.

a. $4x^2 - 2y = 12$ b. $2x - 5y = 5$ c. $3x = y^2 - 4$

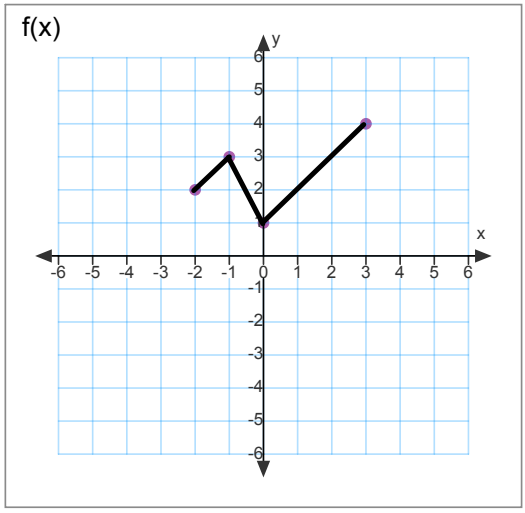
12. Given the graph below, sketch -3 f(x + 1) + 5

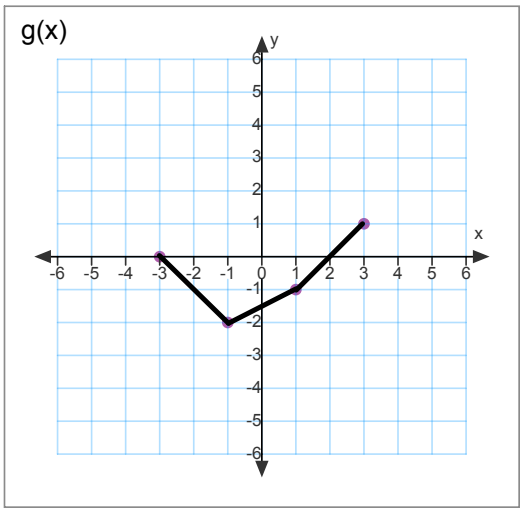




13. Given f(x) and g(x) find the following.

a. (f + g) (3) b. (f ∘ g) (-1) c. (fg^{-1}) (-2) d. ($f^{-1} \circ f$)(4)





14. Given $f(x) = 3 - 2x$ and $g(x) = -3x^2 + 2$ find the following:

a. fg(2)

b. (f - g)(x)

c. g/f(x)

d. f $\circ$ g (-1)

e. g $\circ$ f(-2)

f. f^{-1} (x)

g. g(x - 1)

h. g + f (4)

15. Given F(x) contains the point (2, -3) and g(x) contains the point (2, 1/2), name the point on f/g(x).

Additional Review

p 83 3, 5, 9-47 odd (omit 33, 45)

53, 61-69 odd, 73-75 all,

85-88 all, 89-109 odd, 119-126 all

129-133 all, 139, 140

p 71 80-88 even

Workbook p 7 (factoring practice)