PRE-CALCULUS **Assignment #_____**

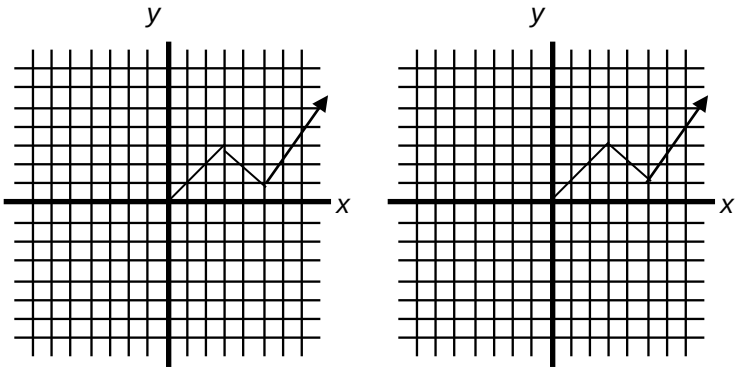
MR2

NAME_____DATE_____PER_____

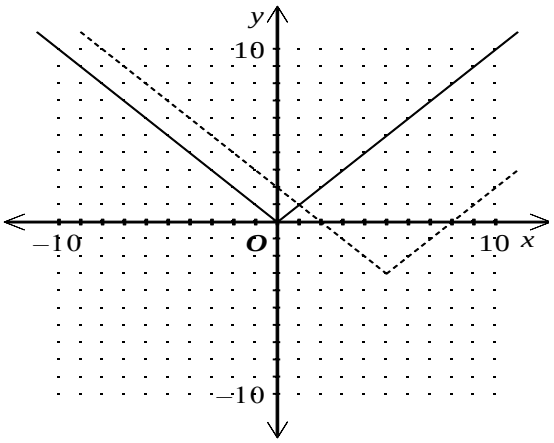
SHOW ALL THE WORK CLEARLY.

1) **Complete the graph** such that: **a) it is *even*, and b) it is *odd*.**

a) EVEN b) ODD



2) Identify the ***change*** in the parent function $f(x) = |x|$ that will produce the related function:



In problems (3-9), use the following functions: $f(x) = 2x+1$ **and** $g(x) = 3x^2 - 1$.

3) $(f \cdot g)(x)$ 4) $(f + g)(x)$ 5) $(f - g)(x)$

6) $(f \circ g)(x)$ 7) $g(f(x))$

8) $g(f(-2))$ 9) $f(g(3))$

2)
3) $(f \cdot g)(x)=$
4) $(f + g)(x)=$
5) $(f - g)(x)=$
6) $(f \circ g)(x)=$
7) $g(f(x))=$
8) $g(f(-2))=$
9) $f(g(3))=$

In problems (10-12), *state the domain*:

10) $\frac{12}{2x+3}$ 11) $\frac{4x-3}{x^2-81}$ 12) $\frac{x^2-3x-18}{x-6}$

In problems (13-15), determine the *horizontal, vertical, and slant asymptotes* (if any) of the graph of each of the functions:

13) $f(x)=\frac{4}{x-4}$ 14) $f(x)=\frac{x^2+3x-3}{x+4}$ 15) $f(x)=\frac{6x+8}{x-2}$

Solve:

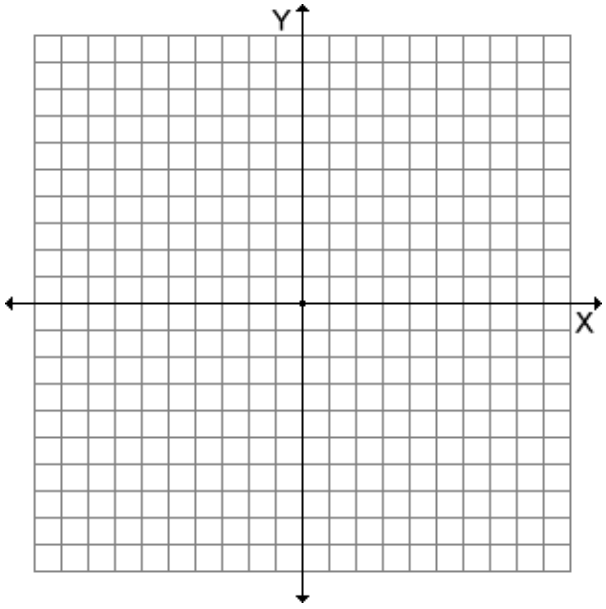
16) $x^2 + 4x = 21$ 17) $x^2 = -9 - 6x$ 18) $-7x - 6 = -3x^2$

10)
11)
12)
13) VA: HA: SA:
14) VA: HA: SA:
15) VA: HA: SA:
16)
17)
18)

Graph the function and its inverse as follows:[[LABLE]]

19) a) Graph the parent graph with the translation. LABEL parent *f*(x) && inverse f^{-1}(x)
b) Graph the y=x line (dotted line).
c) Graph the inverse.[[HIGHLIGHT]]

$f(x)=(x-1)^3+1$



20) a) Graph using a table of values LABEL parent *h*(x) && inverse h^{-1}(x)
b) Graph the y=x line (dotted line).
c) Graph the inverse. .[[HIGHLIGHT]

$h(x)=3|x|+2$