Name _____ Date _____

Transformations of Graphs

Describe the transformations that are applied.

Function	a	h	k
$f(x)+5$	None	None	Up 5
$3f(x-1)+6$			
$-f(x+9)-2$	Reflect across the x-axis	Left 9	Down 2
$\frac{1}{2}f(x-10)$			
$-5f(x)+2$	Reflect across the x-axis V. Stretch of 5	None	Up 2

For 1-5, suppose that **f(x) = x^2** and **g(x) = 2x**. Match the function notation to the correct function.

1. f(x + 2)
2. g(x) + 2
3. 2f(x)
4. -g(x)
5. f(x) + 2

A. -2x

B. $(x + 2)^2$

C. 2x + 2

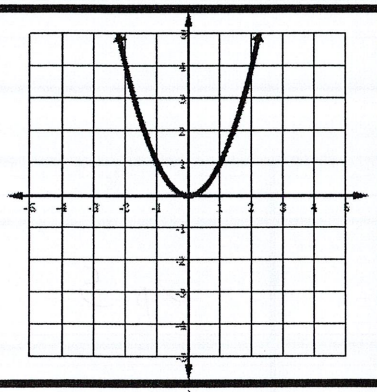
D. $x^2 + 2$

E. $2x^2$

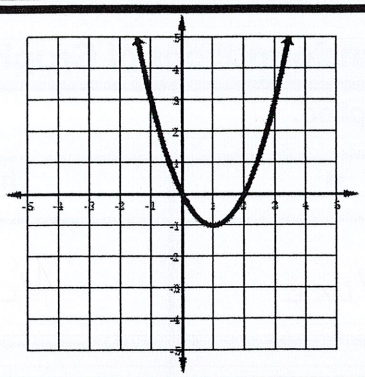
Write a description of the transformations on the functions above.

1. Left 2
2. _____
3. V. Stretch of 2
4. _____
5. Up 2

A.

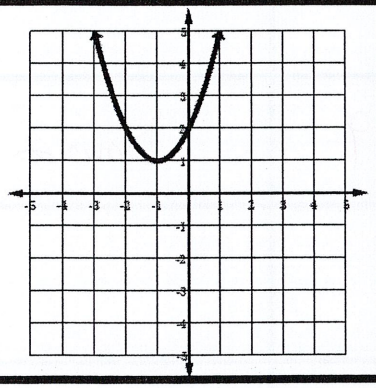


B.



Write an equation that will transform Graph A to Graph B.

C.



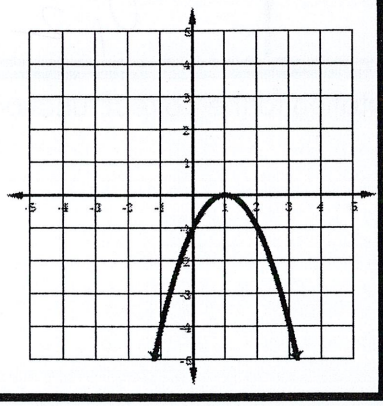
The minimum for Graph C is (-1, 1). What would the minimum be if Graph C was transformed according to the following rule: y = f(x) – 3

$y = f(x) - 3$

$y = 1 - 3$

$\boxed{y = -4}$

D.



Given Graph D, determine the following:

a) Find the x-intercept(s) if the graph is shifted up 4 units.

b) Find the y-intercept if the graph is reflected and shifted left 3 units.

Review: Select three of the ordered pairs below that could be added to the set so that *f* remains a function.

x	f(x)
-5	3
0	6
3	-2
4	0

A. (-3, -2) B. (4,2) C. (0,-1)

D. (1,6) E. (2,3) F. (-5, 9)