Name _____ Date _____

Mr. Schlansky Algebra II

Translating Functions

1. The graph below represents $f(x)$.

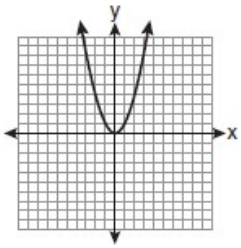
Match the following equations with their graphs:

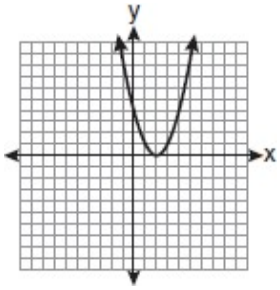
a) $f(x+2)$

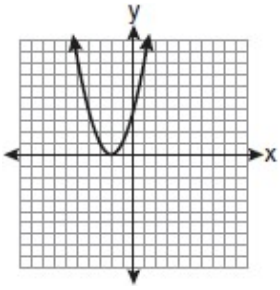
b) $f(x)+2$

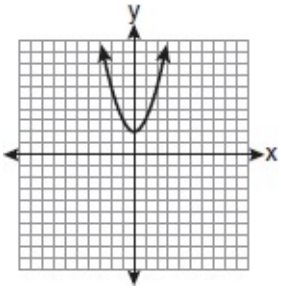
c) $f(x-2)$

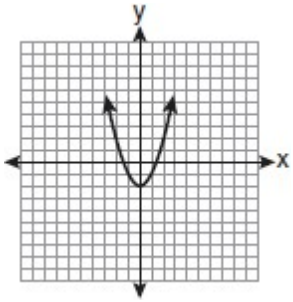
d) $f(x)-2$











2. The graph below represents $f(x)$.

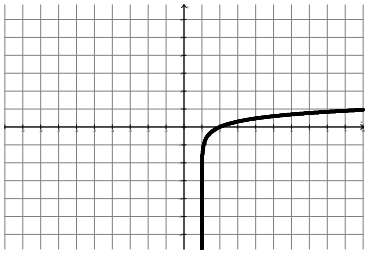
Match the following equations with their graphs:

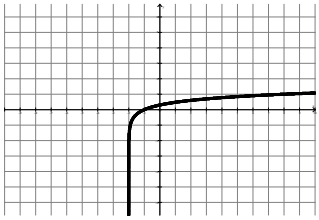
a) $f(x+2)$

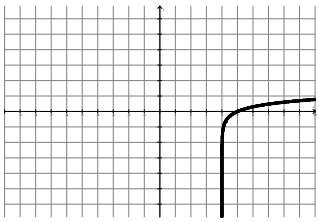
b) $f(x)+2$

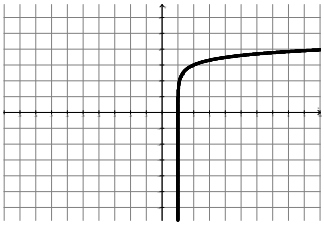
c) $f(x-2)$

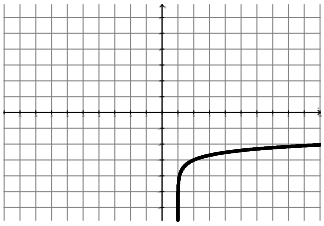
d) $f(x)-2$











3. Which transformation of $y = 2^x$ results in the function $y = 2^x - 2$?

1) Up two units
2) Down two units
3) Right two units
4) Left 2 Units

4. Which transformation of $y = 2^x$ results in the function $y = 2^{x-2}$

1) Up two units
2) Down two units
3) Right two units
4) Left 2 Units

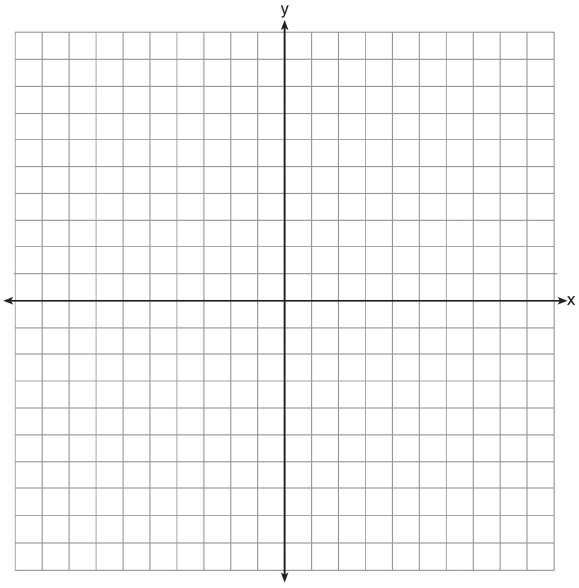
5. The function $f(x) = \sqrt{x}$. Which function represents a shift of the graph left 3 units?

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

6. Joey's math class is studying the basic quadratic function, $f(x) = x^2$. Each student is supposed to make two new functions by adding or subtracting a constant to the function. Joey chooses the functions $g(x) = x^2 - 5$ and $h(x) = x^2 + 2$. What transformations would map $f(x)$ to $g(x)$ and $f(x)$ to $h(x)$?

1) shift left 5, shift right 2
2) shift right 5, shift left 2
3) shift up 5, shift down 2
4) shift down 5, shift up 2

7. If $g(x) = f(x) + 2$, how is the graph of $f(x)$ translated to form the graph of $g(x)$?

If $h(x) = f(x-4)$, how is the graph of $f(x)$ translated to form the graph of $g(x)$?

8. If $f(x) = x^2 - 4x + 3$, graph the parabola defined by $g(x) = f(x-2)$.