

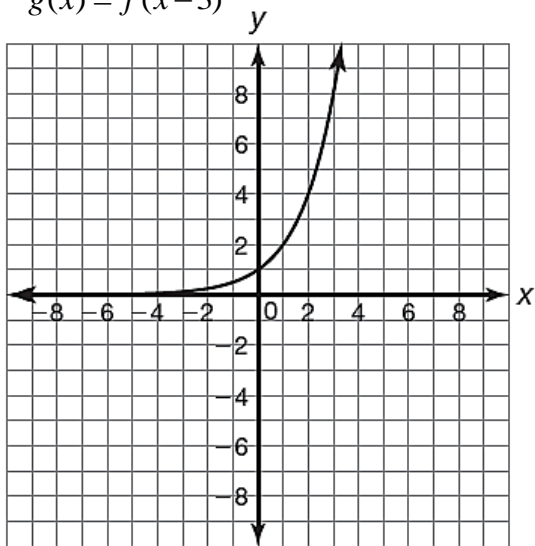
5.3 HW (Part 2 - Horizontal Translations)

Describe each new graph in relation to its basic function.

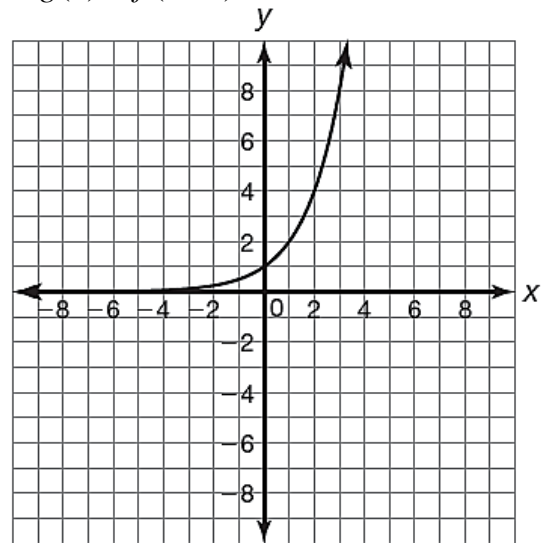
- Basic function: $h(x) = x$ New function: $f(x) = x + b$
- Basic function: $h(x) = b^x$ New function: $f(x) = b^{(x-c)}$
- Basic function: $h(x) = x$ New function: $f(x) = (x - b)$
- Basic function: $h(x) = b^x$ New function: $f(x) = b^{(x+c)}$
- Basic function: $h(x) = b^x$ New function: $f(x) = b^x - k$
- Basic function: $h(x) = x$ New function: $f(x) = (x + b)$

Each coordinate plane shows the graph of $f(x)$. Sketch the graph of $g(x)$.

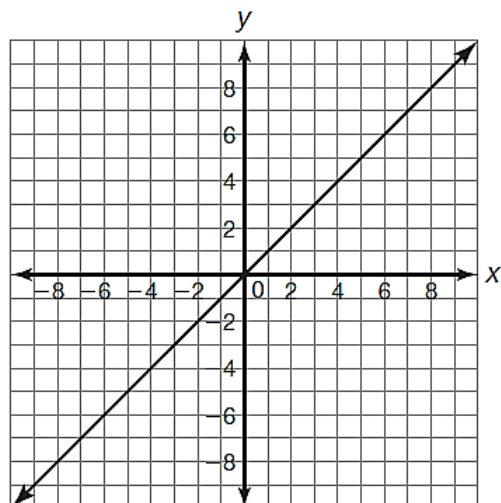
7. $g(x) = f(x - 3)$



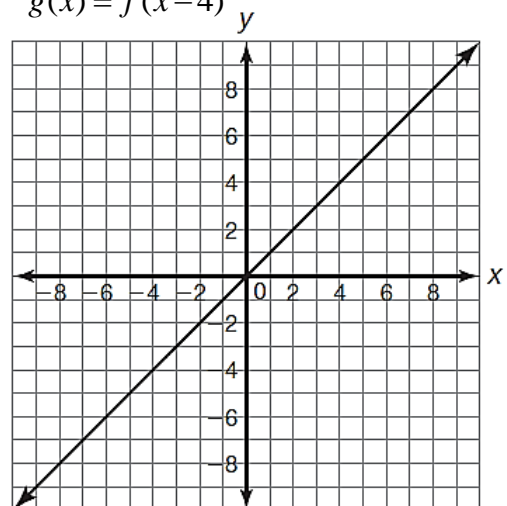
8. $g(x) = f(x + 3)$



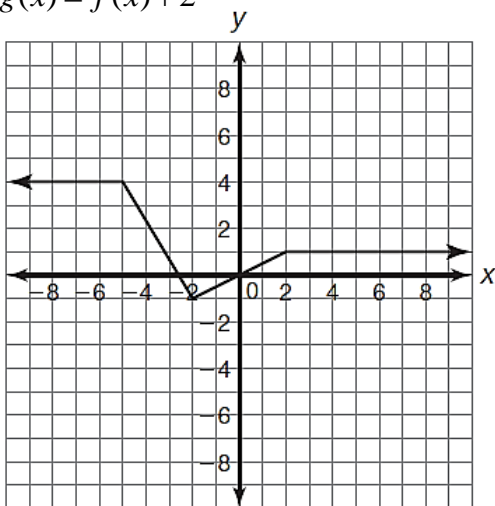
9. $g(x) = f(x + 5)$



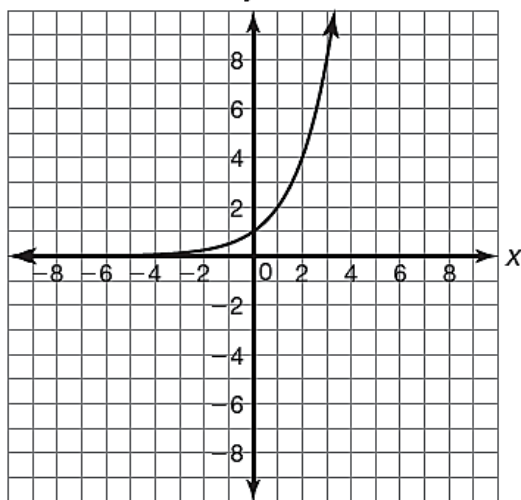
10. $g(x) = f(x - 4)$



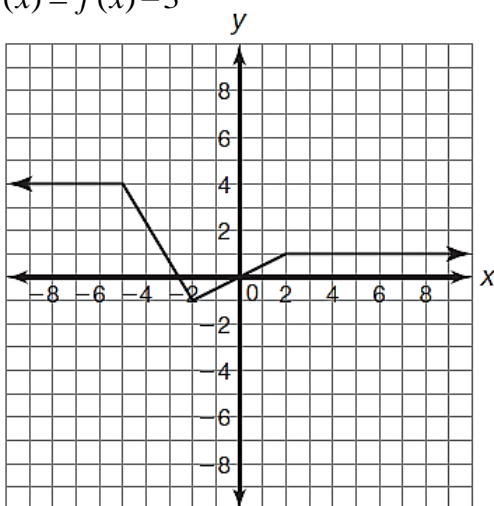
11. $g(x) = f(x) + 2$



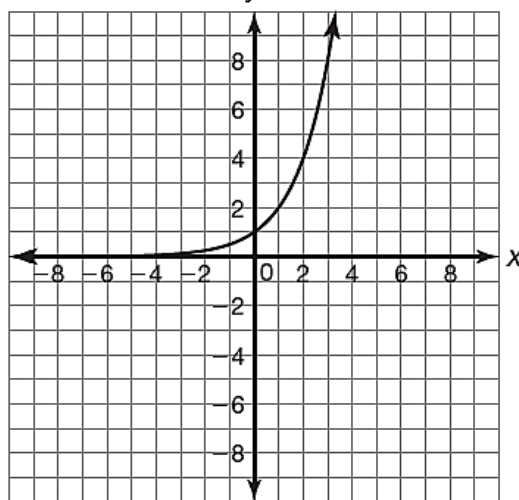
12. $g(x) = f(x) - 5$



13. $g(x) = f(x) - 3$

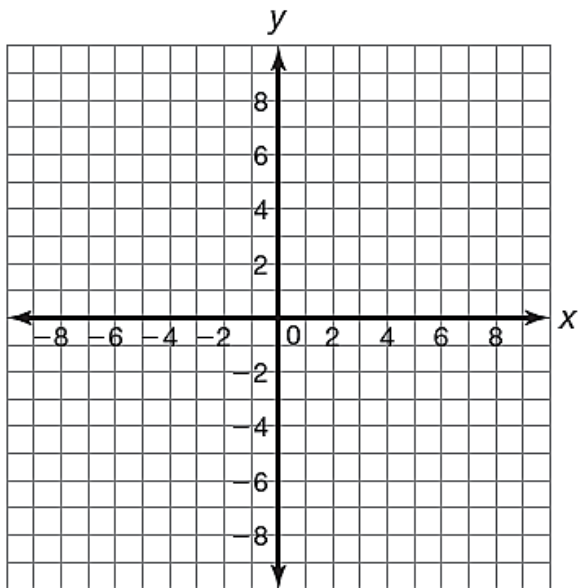


14. $g(x) = f(x) + 4$



For each of the following, graph the basic function and the second function on the same graph.

15. $f(x) = 2^x$; $g(x) = 2^x - 4$



16. $f(x) = \left(\frac{1}{2}\right)^x$; $g(x) = \left(\frac{1}{2}\right)^{x+3}$

