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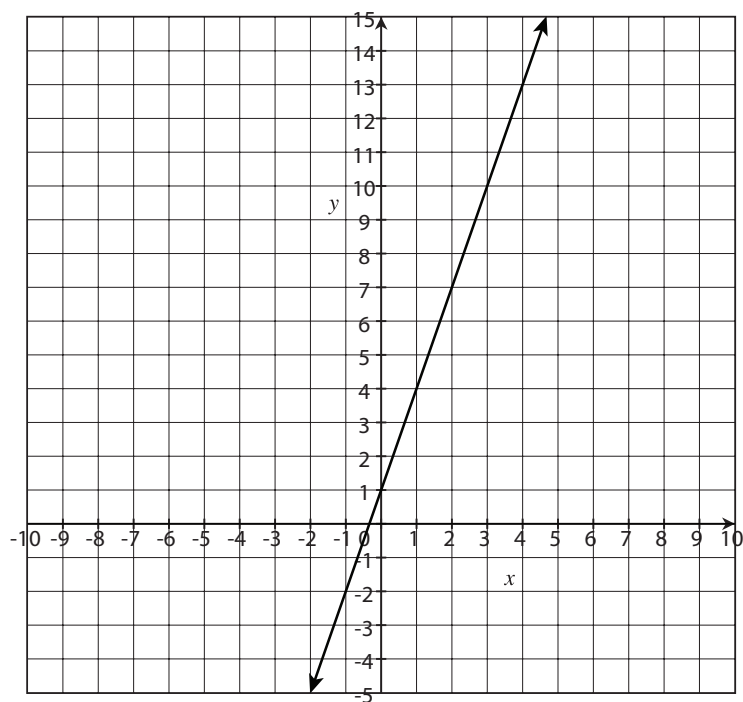
UNIT 3 • LINEAR AND EXPONENTIAL FUNCTIONS

Lesson 7: Operating on Functions and Transformations

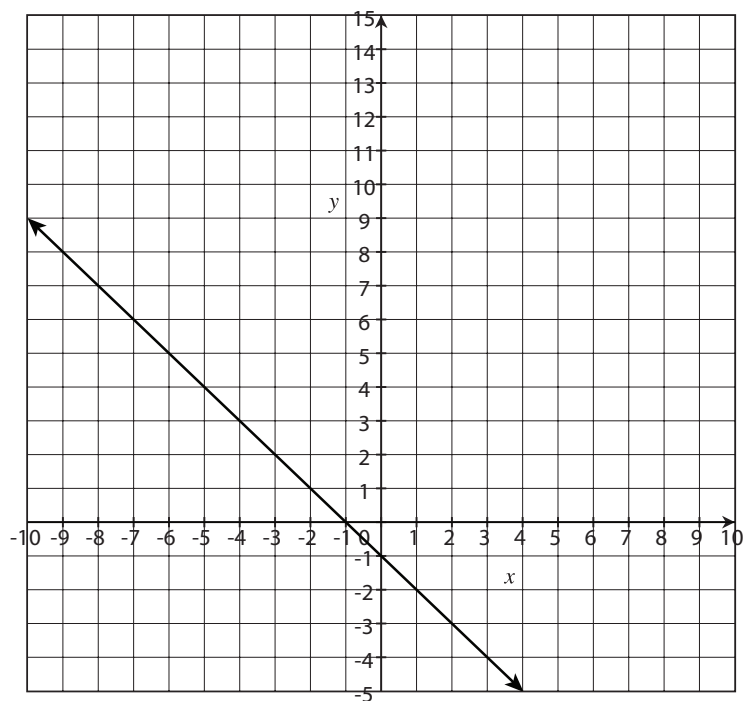
Practice 3.7.2: Transformations of Linear and Exponential Functions

Graph the following functions of $f(x) + k$ given the graphs of $f(x)$.

1. $f(x) + 2$



2. $f(x) - 3$



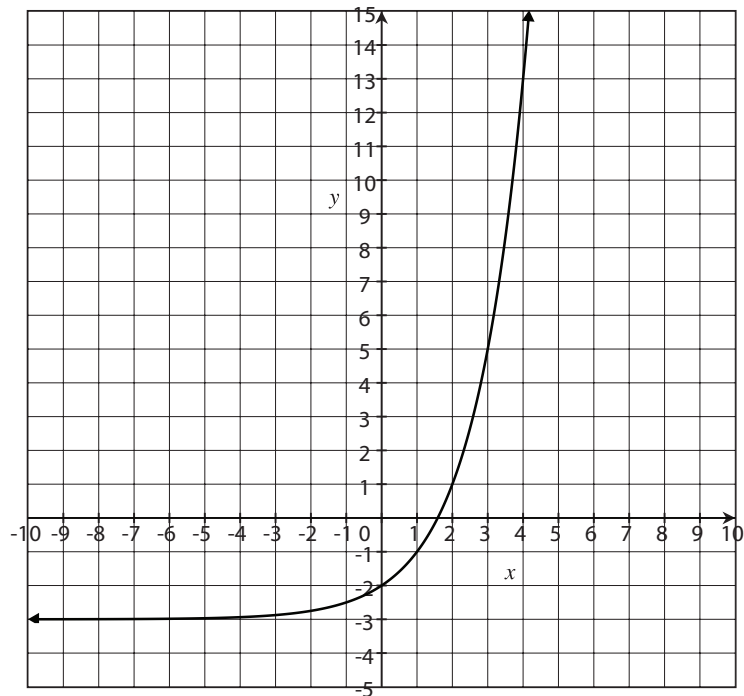
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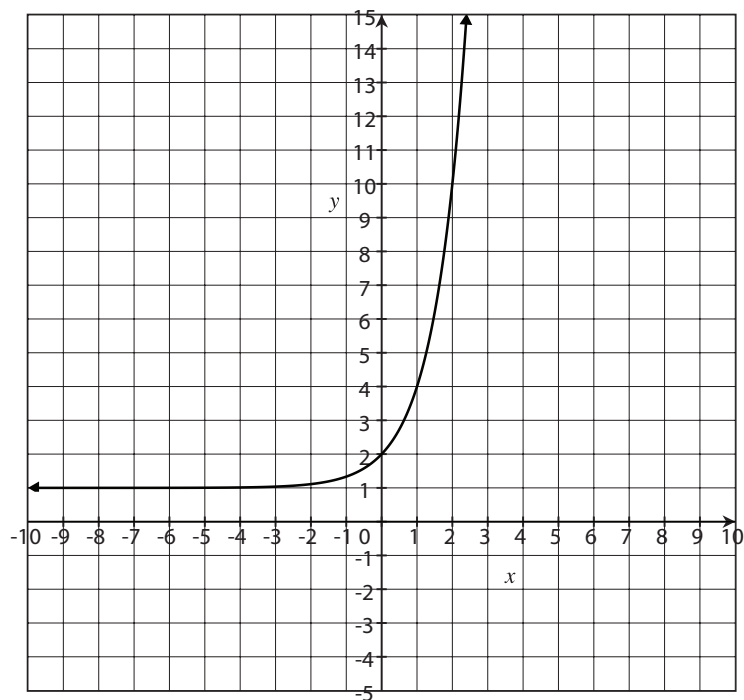
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3. $f(x) + 4$



4. $f(x) - 3$



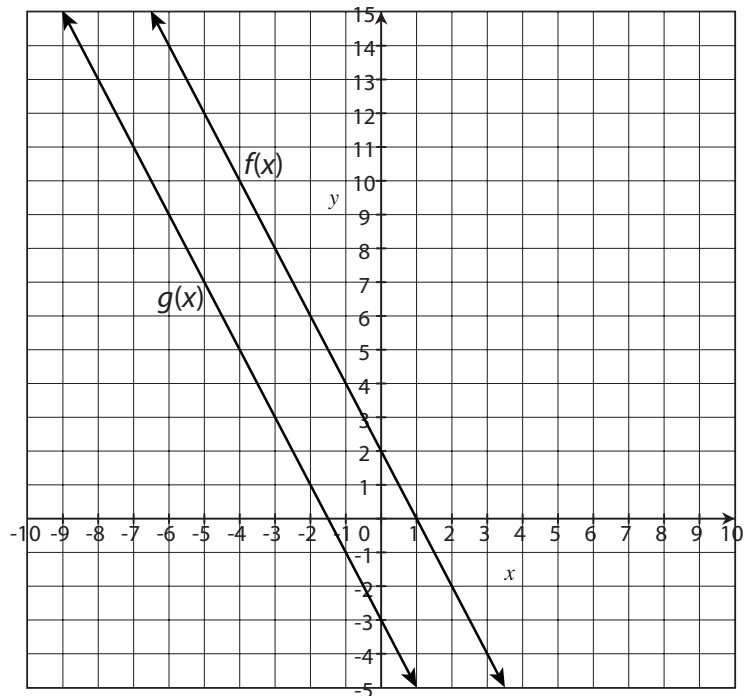
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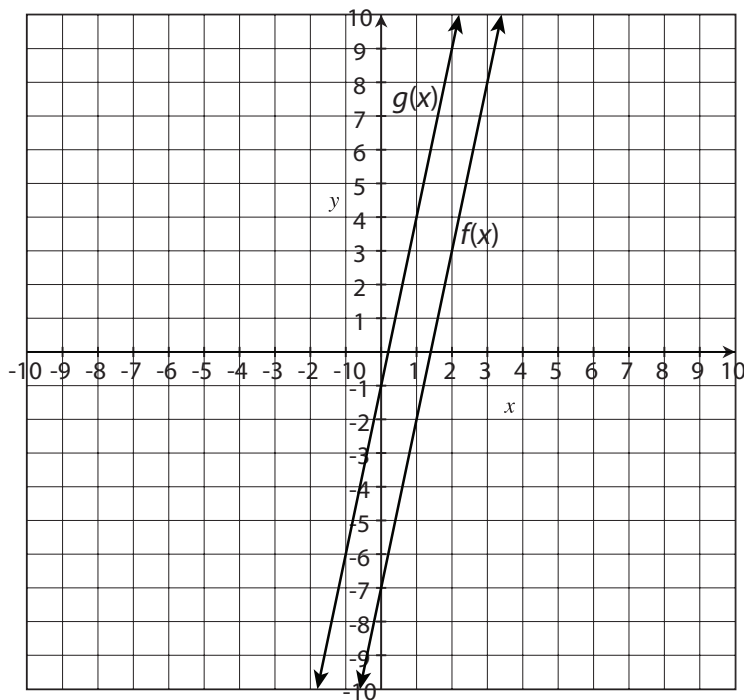
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5. Given the graphs of $f(x)$ and $g(x)$ below, write a function rule for $g(x)$ in terms of $f(x)$.



6. Given the graphs of $f(x)$ and $g(x)$ below, write a function rule for $g(x)$ in terms of $f(x)$.



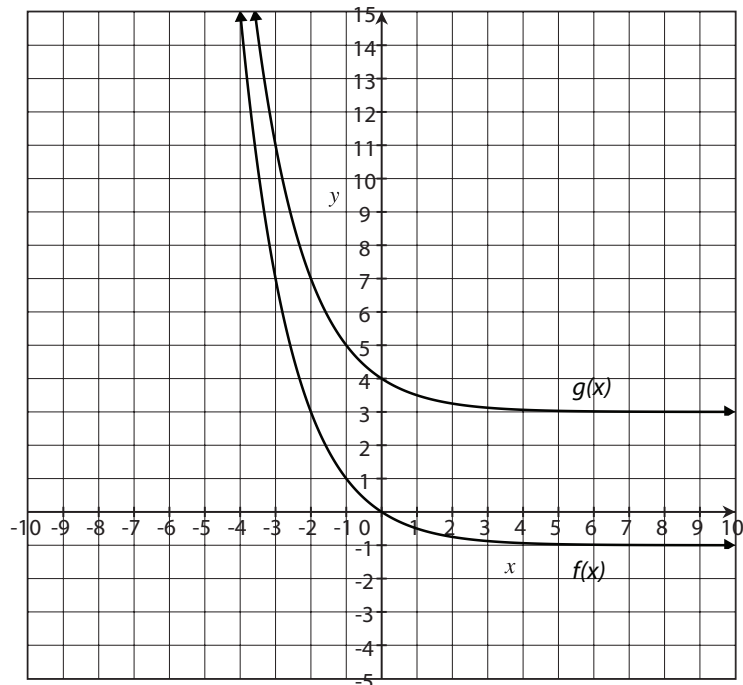
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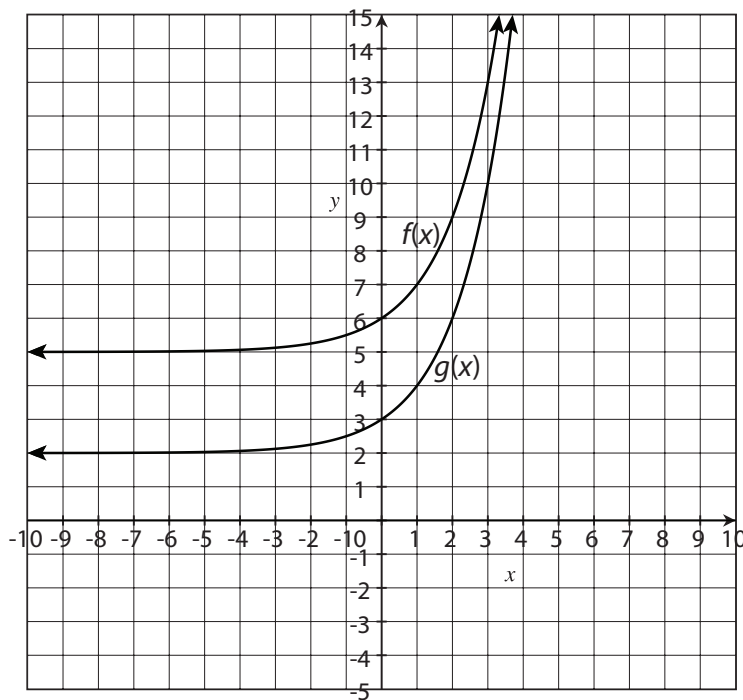
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7. Given the graphs of $f(x)$ and $g(x)$ below, write a function rule for $g(x)$ in terms of $f(x)$.



8. Given the graphs of $f(x)$ and $g(x)$ below, write a function rule for $g(x)$ in terms of $f(x)$.



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9. $f(x) = 2x + 1$ and $g(x) = 2x - 2$. If $g(x)$ can be written as $f(x) + k$, what is the value of k ?

10. $f(x) = 2^x - 1$ and $g(x) = 2^x + 3$. If $g(x)$ can be written as $f(x) + k$, what is the value of k ?