Name _____ Date _____ Class _____

LESSON 5-9

Practice A

Transforming Linear Functions

Fill in each blank with *translation*, *rotation*, or *reflection*.

1. A _____ is like a *turn*.
2. A _____ is like a *slide*.
3. A _____ is like a *flip*.

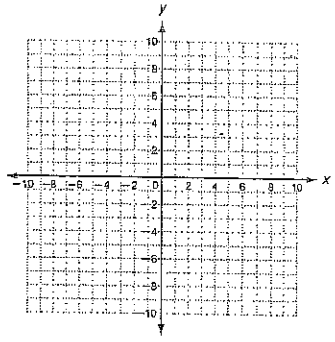
Graph $f(x)$ and $g(x)$. Then describe the transformation(s) from the graph of $f(x)$ to the graph of $g(x)$.

4. $f(x) = x$; $g(x) = x + 5$

_____

_____

_____



5. $f(x) = 2x - 1$; $g(x) = 4x - 1$

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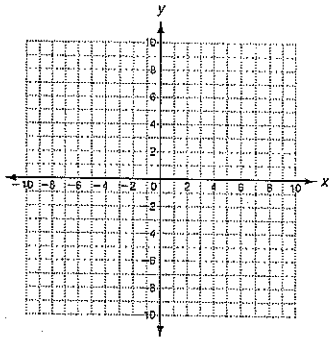
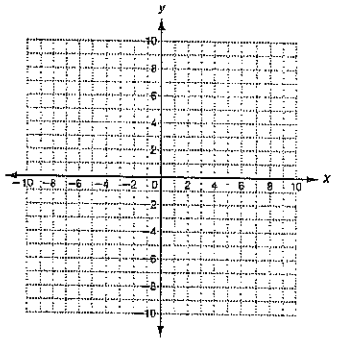


6. $f(x) = x$; $g(x) = \frac{1}{2}x - 7$

_____

_____

_____



7. The cost of making a ceramic picture frame at a paint-your-own pottery store is \$12, plus \$5 per hour while you paint. The total cost for the frame that you spend x hours painting is $f(x) = 5x + 12$.

   a. How will the graph of this function change if the cost of the frame is raised to \$15?

   _____

   b. How will the graph of this function change if the hourly charge is lowered to \$4?

   _____

Name _____ Date _____ Class _____

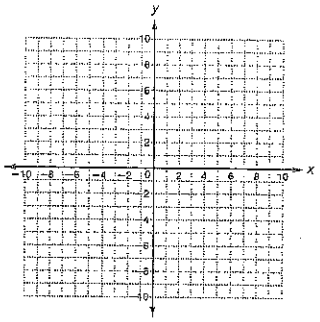
LESSON 5-9

Practice B

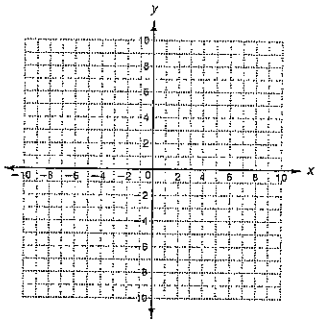
Transforming Linear Functions

Graph $f(x)$ and $g(x)$. Then describe the transformation from the graph of $f(x)$ to the graph of $g(x)$.

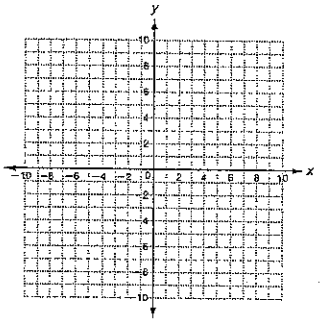
1. $f(x) = x$; $g(x) = x + 3$



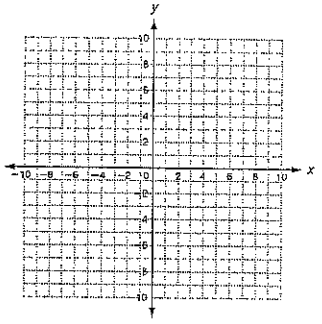
2. $f(x) = \frac{1}{3}x - 4$; $g(x) = \frac{1}{4}x - 4$



3. $f(x) = x$; $g(x) = 2x - 5$



4. Graph $f(x) = -3x + 1$. Then reflect the graph of $f(x)$ across the y-axis. Write a function $g(x)$ to describe the new graph.



5. The cost of hosting a party at a horse farm is a flat fee of \$250, plus \$5 per person. The total charge for a party of x people is $f(x) = 5x + 250$. How will the graph of this function change if the flat fee is lowered to \$200? if the per-person rate is raised to \$8?