Name Date Class

Practice 4.10: 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).

1. f(x) = x + 5; g(x) = −x + 5



1. f(x) = 2x − 4; g(x) = -2x + 4

1. f(x) = 2x − 4; g(x) = 2x + 3



1. f(x) = 2x − 1; g(x) = 4x − 1



1. *f*(*x*) = *x*; *g*(*x*) = 2*x* − 5

 8. 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?

Review for Mastery: Transforming Linear Functions

**Describe the transformations from the graph of f(x) to the graph of g(x).**

 10. f(x) = x; g(x) = 

 11. f(x) = x; g(x) = x − 5

 12. f(x) = x; g(x) = 6x

 13. f(x) = 6x; g(x) = −6x

Each function below is reflected across the **y**-axis. Write a function **h**(**x**) to describe each new graph.

 14. f(x) = 5x 15. f(x) = −9x 16. f(x) = 2x + 7

Describe the transformations from the graph of **f**(**x**) to the graph of **g**(**x**).

1. f(x) = x, g(x) = 4x − 2
2. f(x) = x, g(x) = 0.25x + 3
3. f(x) = 2x, g(x) = x + 8
4. f(x) = −5x, g(x) = x
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?

How will the graph of this function change if the per-person rate is raised to $8?