Name Class Date

2.3

**Practice DAY 2**



Transformations of Linear Functions

**Determine the effects on the graph of the parent function, *f*** **(*x*)** = ***x*, for each *g*(*x*)
function. Graph both functions on the same coordinate grid.**

|  |  |
| --- | --- |
| **1.** *g*(*x*) = *x* –1**3-7-1** | **2.** *g*(*x*) = *x* + 1*3-7-2* |
| **3.** *g*(*x*) = –*x***3-7-3** | **4***. g*(*x*) = *-2x+1**3-7-4* |

|  |  |
| --- | --- |
| **5.** *g*(*x*) = 2(*x-2) +1***3-7-5** | **6.** *g*(*x*) = *4(x-3) +7**3-7-6* |

**7**. A car rental store rents cars for $25 a day plus $.50 per mile. The function *f*(*x*) = .50*x+25* represents the daily rental fee for *x* days. The company decides to raise the rental fee to $75 and $1.00 per mile.
Write the function *g*(*x*), which gives the new cost per day, as a transformation of *f*(*x*).
How would the graph of *g*(*x*) compare to that of *f*(*x*)?

**Tell whether each transformation is a reflection, a translation, or both a reflection
and a translation of *f*(*x*)**

|  |  |
| --- | --- |
|  **8.** *g*(*x*) = *x* + 5 |  **9.** *h*(*x*) = –*x*+ 1 |
| **10.** *k*(*x*) = -(*x* – 4) | **11.** *m*(*x*) = (*x* + 1) – 2 |

**12.** **Multiple Representations** The graph shows the function *f*(*x*). Write an equation for *g*(*x*)
that would translate the graph vertically. Then write an equation for *h*(*x*) that would change
the steepness of the graph. Explain your reasoning.



**13. Writing** In the graph shown, *g*(*x*) is a transformation of the function *f*(*x*). Is the
transformation a reflection or a translation? Explain your answer. Write the equation
for *g*(*x*).



**Pearson Texas Algebra I**

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