Name Class Date

2-3

**Practice Day 1**



Transformations of Linear Functions

**1.** **Writing** Identify three types of transformations of linear functions.

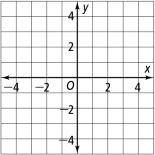
**For each pair of functions, describe a transformation that maps *f(x)* to *g(x)*.**

|  |  |
| --- | --- |
| **2.** *f* (*x*) = 5*x*; *g*(*x*) = -5*x* | **3.** *f* (*x*) = *x* + 7; *g*(*x*) = (*x* – 1) + 7 |
| **4.** *f* (*x*) = 2*x*; *g*(*x*) = 4(*x* + 4) | **5.** *f* (*x*) = 10*x* + 1; *g*(*x*) = 10*x* + 4 |
| **Compared to *f(x)=x*; graph the new equation.** |  |
| **6.** *g*(*x*) = *x* –1  **3-7-1** | **7.** *g*(*x*) = (*x* + 1) -3  *3-7-2* |
| **8.** *g*(*x*) = –(*x-4*)  **3-7-3** | **9***. g*(*x*) = *(x-4) +3*  *3-7-4* |

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**Graph and describe the indicated transformation.**

|  |  |
| --- | --- |
| **11.** *f(x)=* (*x* – 2)  *3-7-4* | **12.** *f(x)=* (*x+4*) +2  *3-7-4* |

**

|  |  |
| --- | --- |
| **13.** *f* (*x*) = x – 2  *3-7-4* | **14.** *f* (*x) = (x+3*) - 1 |

**15.** **Reasoning** Write a function, *f*(*x*), that represents a gym membership cost of  
$20 per month for *x* months.

**16.** Explain how a fee increase of $5 can be represented. Use *g*(*x*) for the new function.

**17.** The gym decided to add a towel cleaning one-time fee of $10. Write the new function and describe the transformation from problem #15 to problem #17.

**Pearson Texas Algebra I**

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