Test Review: Parent Functions and Transformations

Name Ms. Erayil Date _____

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Transformations of Linear and Absolute Value Functions

In Exercises 1–6, write a function *g* whose graph represents the indicated transformations of the graph of $f(x) = 2x - 1$.

Use technology to check your answers.

1. translation 3 units right followed by a translation 1 unit down
2. translation 1 unit left followed by a reflection in the *x*-axis
3. vertical stretch by a factor of 3 followed by a translation 3 units down
4. horizontal shrink by a factor of $\frac{1}{3}$ followed by a translation 5 units up
5. translation 3 units right followed by a vertical stretch by a factor of 2
6. translation 1 unit up followed by a reflection in the *x*-axis and a translation 3 units left

In Exercises 7–12, write a function g whose graph represents the indicated transformations of the graph of $f(x) = |x + 2| - 1$.

Use technology to check your answers.

7. translation 3 units right followed by a translation 1 unit down
8. translation 1 unit left followed by a translation 2 units up
9. translation 1 unit up followed by a reflection in the *x*-axis and a translation 3 units left
10. translation 1 unit right followed by a vertical stretch by a factor of 2 and a translation 4 units down
11. horizontal shrink by a factor of $\frac{1}{4}$ followed by a translation 10 units right and 1 unit up, and a reflection in the *x*-axis
12. translation 5 units right followed by a translation 3 units down, a vertical shrink by a factor of $\frac{1}{2}$, and a reflection in the *x*-axis