

**2-7****Practice**

Form G

**Absolute Value Functions and Graphs****Graph each equation.**

1.  $y = |x| - 2$

2.  $y = |x| + 3$

3.  $y = |x| - 5$

4.  $y = |x| - 4$

5.  $y = |x - 3| + 1$

6.  $y = |x + 1| - 4$

**Graph each equation. Then describe the transformation from the parent function  $f(x) = |x|$ .**

7.  $y = 2|x|$

8.  $y = \frac{1}{4}|x|$

9.  $y = -3|x|$

**Without graphing, identify the vertex, axis of symmetry, and transformations from the parent function  $f(x) = |x|$ .**

10.  $y = |x - 4|$

11.  $y = -3|x| - 2$

12.  $y = -|3x| + 4$

13.  $y = 5 - |x - 1|$

**2-7****Practice** (continued)

Form G

**Absolute Value Functions and Graphs**

14. Graph  $y = -|x-4|+5$ . List the vertex and the  $x$ - and  $y$ -intercepts, if any.

**Graph each absolute value equation.**

15.  $y = |3-x|$

16.  $y = 3 - |x+1|$

17.  $y = -|-x-2|$

18.  $y = -|x|+2$

19.  $y = |3x-1|-2$

20.  $y = \left| \frac{3}{4}x+1 \right|$

21.  $y = \frac{1}{3}|2x-9|$

22.  $y = |x+1|-3$

23.  $y = -\frac{1}{2}|2x-4|$

24. a. Graph the equations  $y = 2|x+4|-1$  and  $y = \frac{1}{2}|x-4|+1$  on the same set of axes.

b. **Writing** Describe the similarities and differences in the graphs.