

2-1

Practice

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

2-1**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.