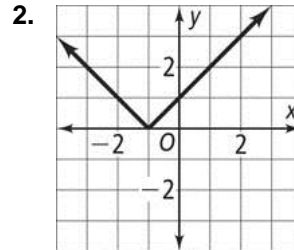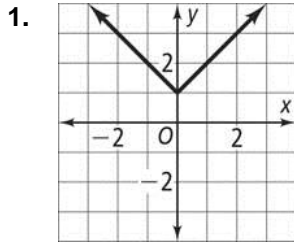# 5-8

Practice

Form K

Graphing Absolute Value Functions

Describe how each graph is related to $y = |x|$.

1.

2.

Graph each function by translating $y = |x|$.

3. $y = |x| + 2$ **4.** $y = |x| - 5$ **5.** $y = |x| - 3$

Write an equation for each translation of $y = |x|$.

6. 6 units up   **7.** 4 units down

8. 2.2 units down   **9.** 3.9 units up

Graph each function by translating $y = |x|$.

10. $y = |x + 7|$ **11.** $y = |x - 4|$ **12.** $y = |x + 5|$

5-8 Practice (continued) — Form K

Graphing Absolute Value Functions

Write an equation for each translation of $y = |x|$.
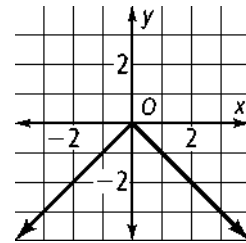
13. left 6 units

14. right 5 units

15. left $\frac{1}{3}$ units

16. right $\frac{3}{4}$ units

At the right is the graph of $y = -|x|$. Graph each function by translating $y = -|x|$.

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

18. $y = -|x + 3|$

Write an equation for each translation of $y = -|x|$.

19. 3 units down

20. 6 units left

21. 6.85 units up

22. 0.75 units right

23. Writing Describe the difference between adding a constant k inside the absolute value ($y = |x + k|$) and outside the absolute value ($y = |x| + k$).

Graph each translation of $y = |x|$. Describe how the graph is related to the graph of $y = |x|$.

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

25. $y = |x - 3| + 2$