Name _____ Class _____ Date _____

Practice 2-6

Vertical and Horizontal Translations

Describe each translation of $f(x) = |x|$ as vertical, horizontal, or diagonal. Then graph each translation.

1. $f(x) = |x + 2|$

2. $f(x) = |x + 4|$

3. $f(x) = |x| - 5$

4. $f(x) = |x + 1| - 1$

5. $f(x) = |x - 2| + 1$

6. $f(x) = \left|x - \frac{3}{2}\right|$

7. $f(x) = |x| - \frac{1}{3}$

8. $f(x) = \left|x - \frac{5}{2}\right|$

9. $f(x) = \left|x + \frac{1}{2}\right| + \frac{3}{2}$

Write an equation for each translation.

10. $y = |x|$, 1 unit up, 2 units left

11. $y = |x|$, 4 units right

12. $y = -|x|$, 3 units up, 1 unit right

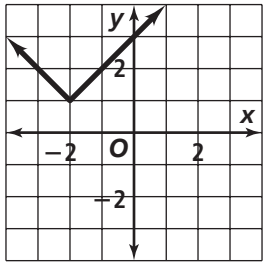
13. $y = -|x|$, $\frac{3}{2}$ units down, $\frac{1}{2}$ unit right

14. $y = |x|$, 2 units down, 3 units left

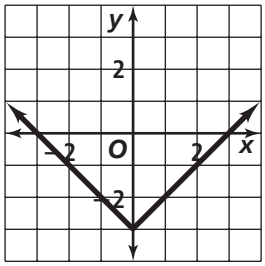
15. $y = -|x|$, $\frac{3}{5}$ unit up

Write the equation of each translation of $y = x$ or $y = |x|$.

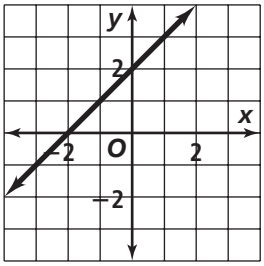
16.



17.

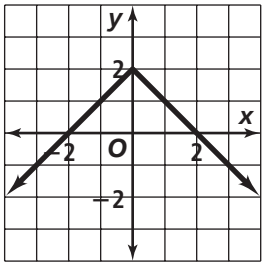


18.

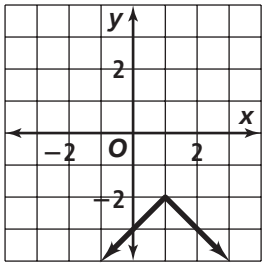


Each graph shows a translation of $y = -|x|$. State the values of h and k.

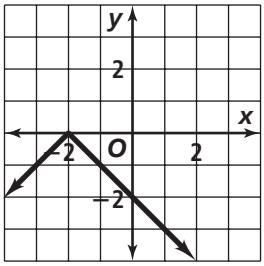
19.



20.



21.



Graph each equation.

22. $y = |x - 1| + 2$

23. $y = -\left|x + \frac{1}{2}\right|$

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

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

26. $y = -|x - 2| + 4$

27. $y = |x + 2| - 1$