

Alg.2 Practice 2-5 Absolute Value Functions and Graphs

Match each equation with its graph.

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

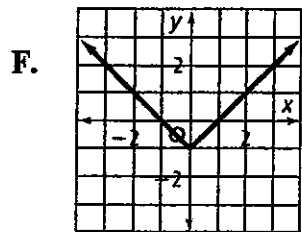
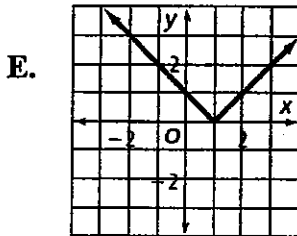
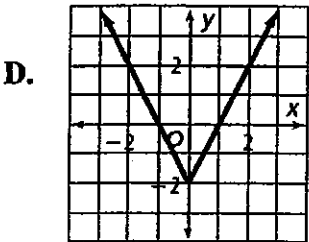
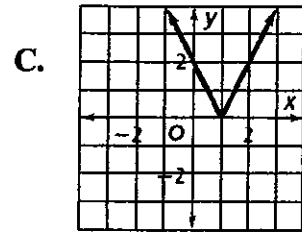
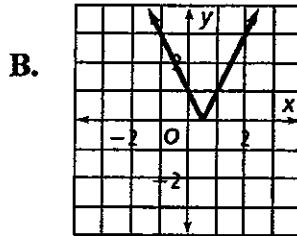
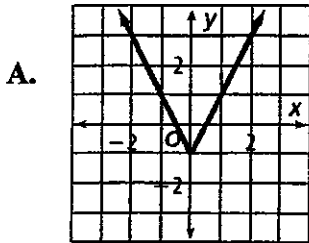
2. $y = 2|x - 1|$ _____

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

4. $y = |x| - 1$ _____

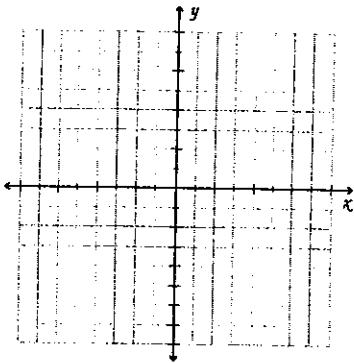
5. $y = |2x - 1|$ _____

6. $y = |2x| - 2$ _____

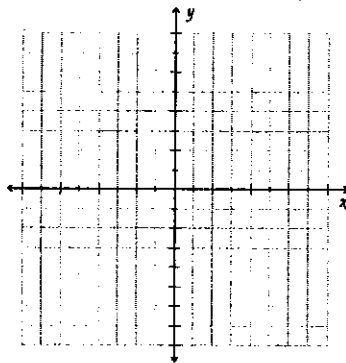


Graph each equation by writing two linear equations.

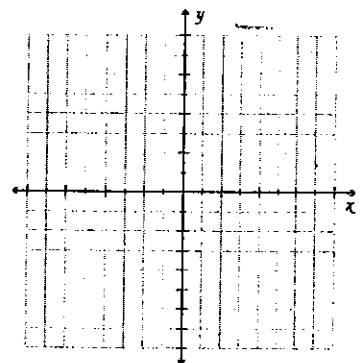
7. $y = |x - 3|$



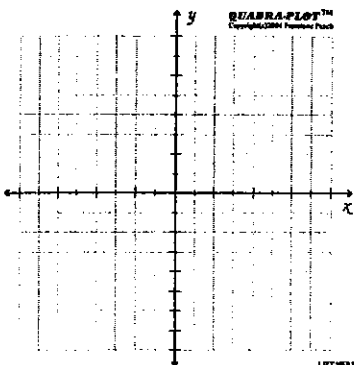
8. $y = |2x - 5|$



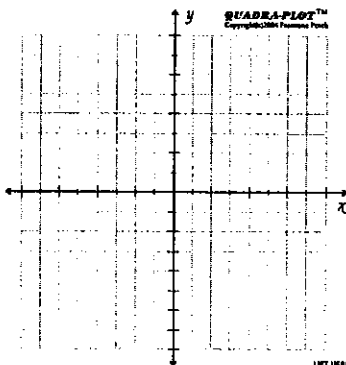
9. $y = 2|x + 2|$



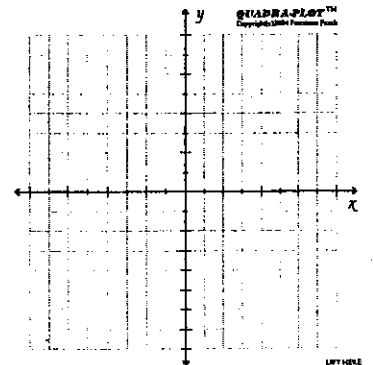
10. $y = |x + 3| - 1$



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

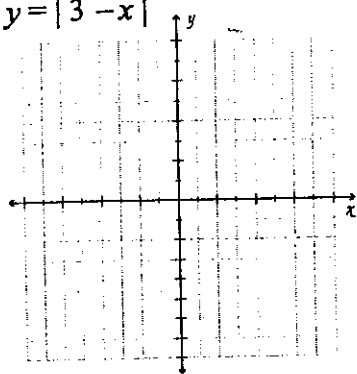


12. $y = \left| \frac{1}{2}x - 2 \right| + 1$

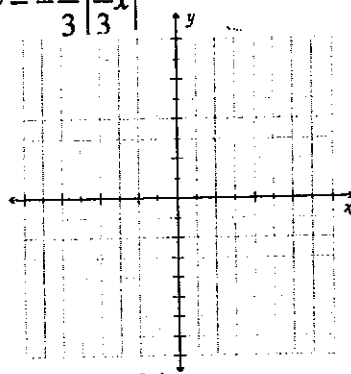


Graph each absolute value equation.

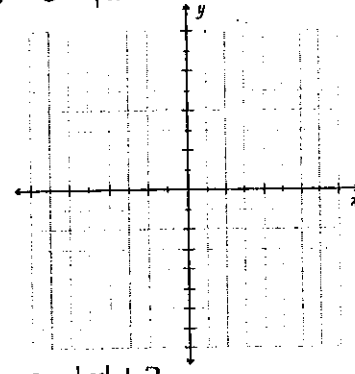
13. $y = |3 - x|$



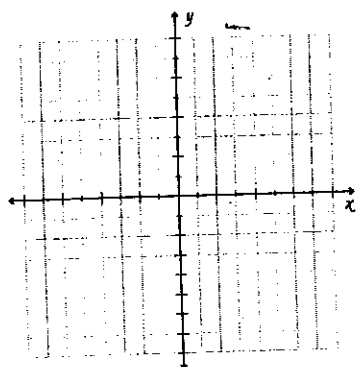
14. $y = -\frac{2}{3} \left| \frac{1}{3}x \right|$



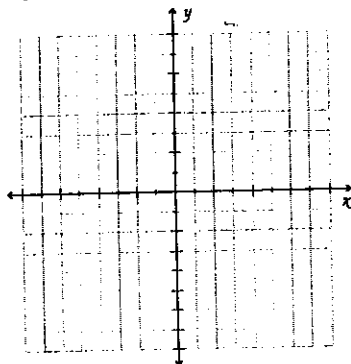
15. $y = 3 - |x + 1|$



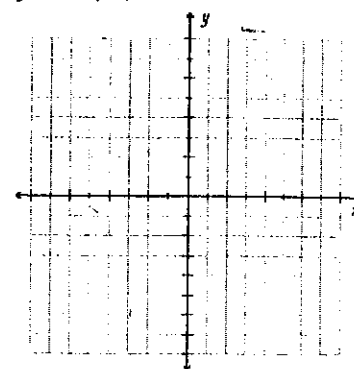
16. $y = -|-x - 2|$



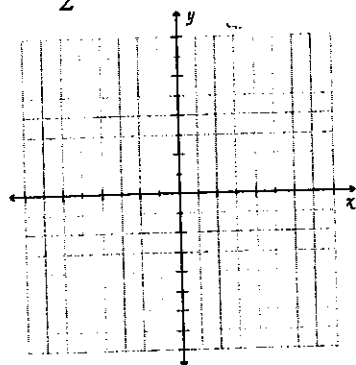
17. $3y = |2x - 9|$



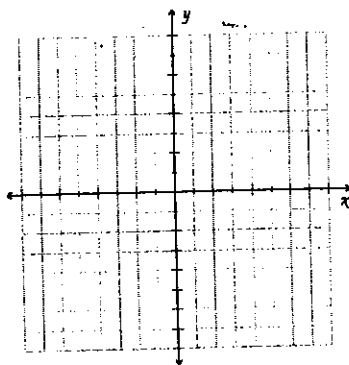
18. $y = -|x| + 2$



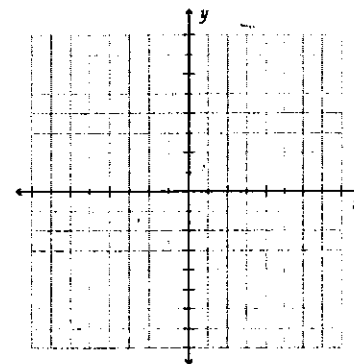
19. $\frac{1}{2}y = |3x - 1| - 2$



20. $y + 3 = |x + 1|$



21. $-2y = |2x - 4|$



Alg.2 Practice 2-6

Families of Functions

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

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

Write an equation for each translation.

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

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

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

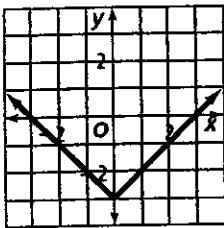
10. $y = -|x|$, $\frac{3}{2}$ units down, $\frac{1}{2}$ unit right

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

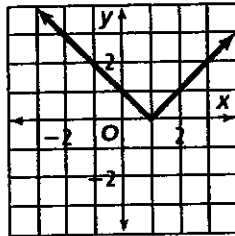
12. $y = -|x|$, $\frac{3}{5}$ unit up

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

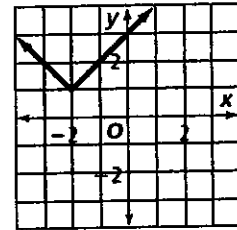
13.



14.

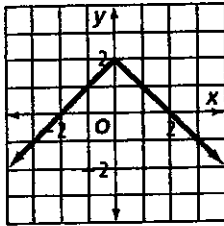


15.

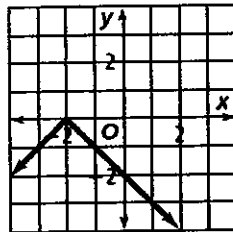


Write the equation of each translation of $y = -|x|$.

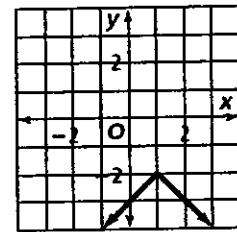
16.



17.

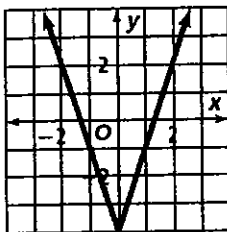


18.

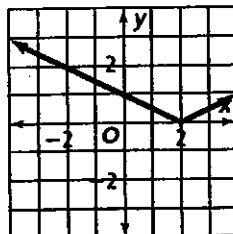


Write the equation for each graph.

19.



20.



21.

