absolute
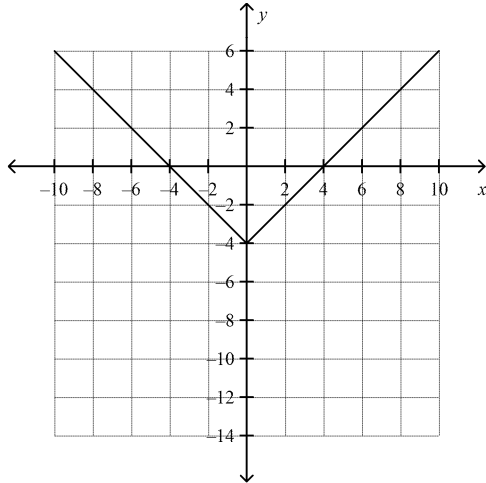
Multiple Choice
*Identify the choice that best completes the statement or answers the question.*

____ 1. Describe how the graph is like the graph of $y = |x|$ and how it is different.

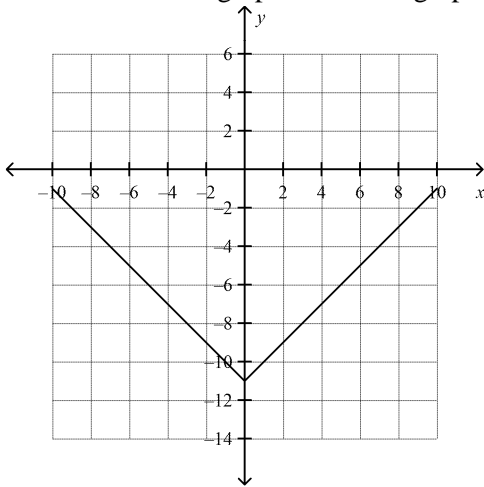a. The graphs have the same y-intercept. The graph above is steeper than $y = |x|$.
b. The graph is the same as $y = |x|$.
c. The graphs are the same shape. The y-intercept of $y = |x|$ is 0 and the x-intercept of the graph above is –4.
d. The graphs are the same shape. The y-intercept of $y = |x|$ is 0 and the y-intercept of the graph above is –4.

_____ 2. Describe how the graph is like the graph of $y = |x|$ and how it is different.
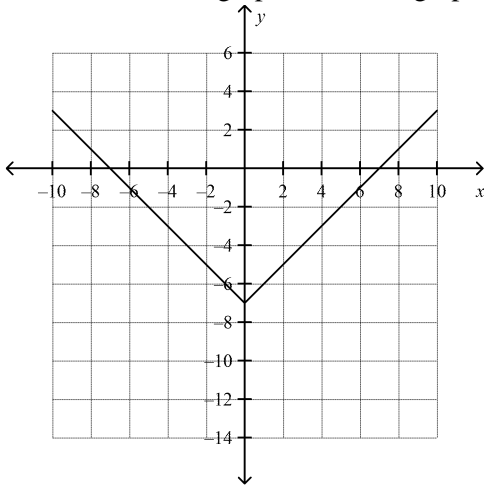
a. The graphs are the same shape. The y-intercept of $y = |x|$ is 0 and the x-intercept of the graph above is –7.
b. The graphs are the same shape. The y-intercept of $y = |x|$ is 0 and the y-intercept of the graph above is –7.
c. The graph is the same as $y = |x|$.
d. The graphs have the same y-intercept. The graph above is steeper than $y = |x|$.

_____ 3. Describe how the graph is like the graph of $y = |x|$ and how it is different.

a. The graphs have the same y-intercept. The graph above is steeper than $y = |x|$.
b. The graphs are the same shape. The y-intercept of $y = |x|$ is 0 and the x-intercept of the graph above is –11.
c. The graph is the same as $y = |x|$.
d. The graphs are the same shape. The y-intercept of $y = |x|$ is 0 and the y-intercept of the graph above is –11.
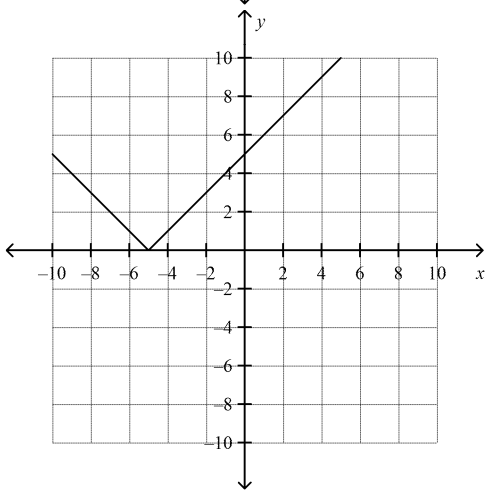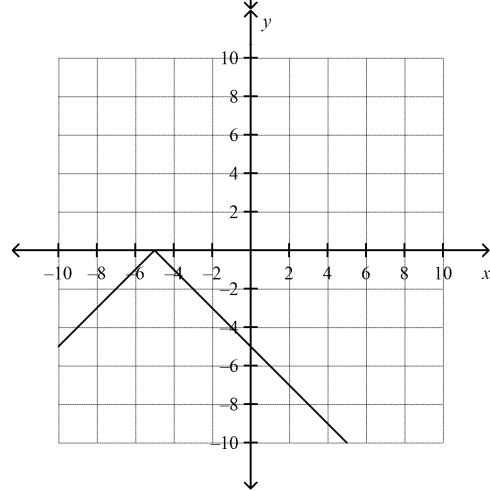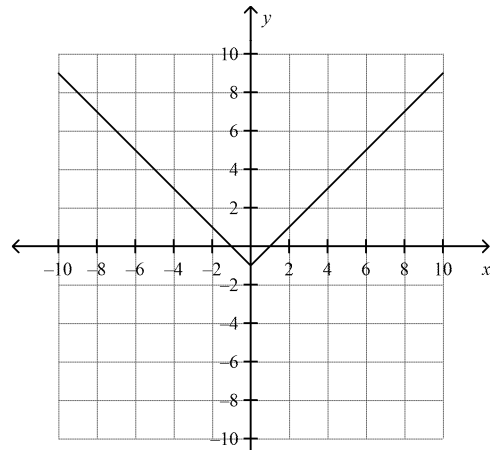
_____ 4. Graph $y = |x| - 5$.

a.

c.

b.

d.

____ 5. Graph $y = |x| + 1$.

a.

c.

b.

d.

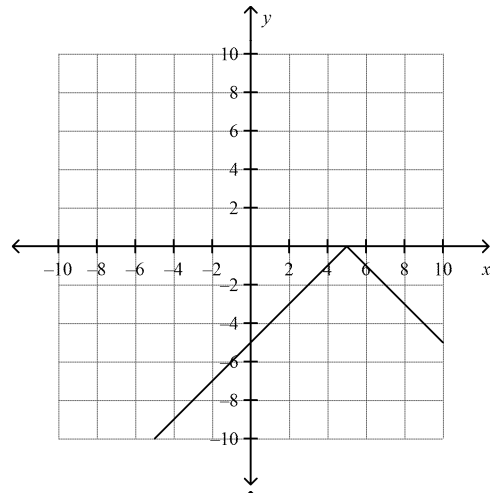_____ 6. Graph $y = |x| + 5$.

a.

c.

b.

d.
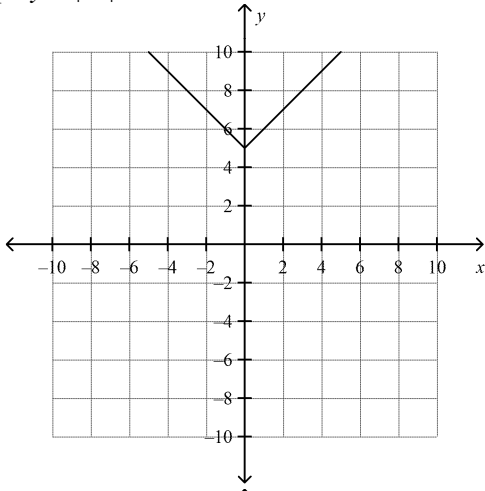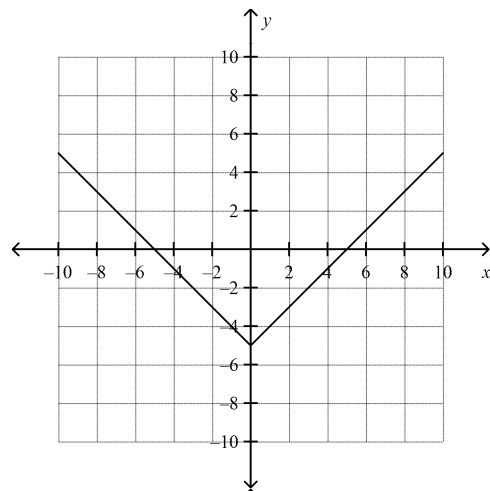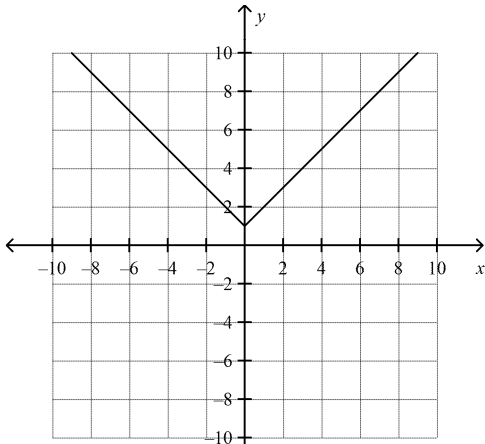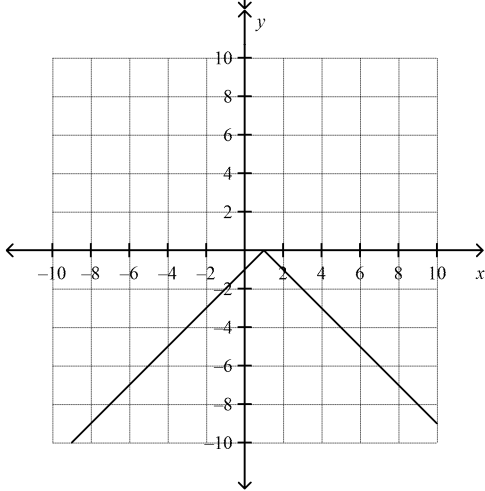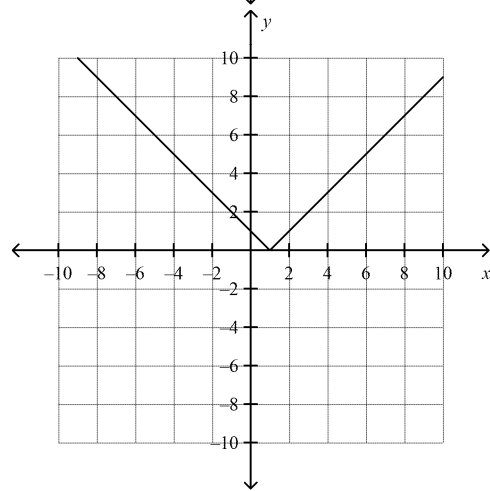
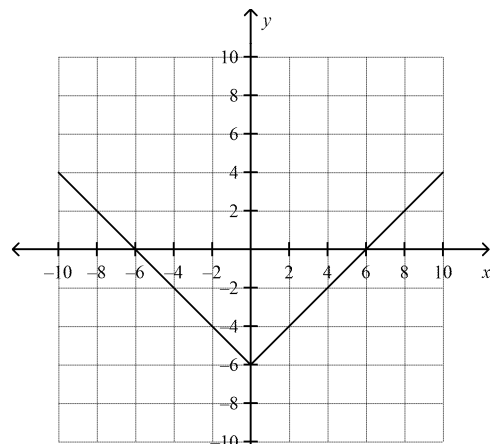____   7. Graph $y = |x| - 6$.
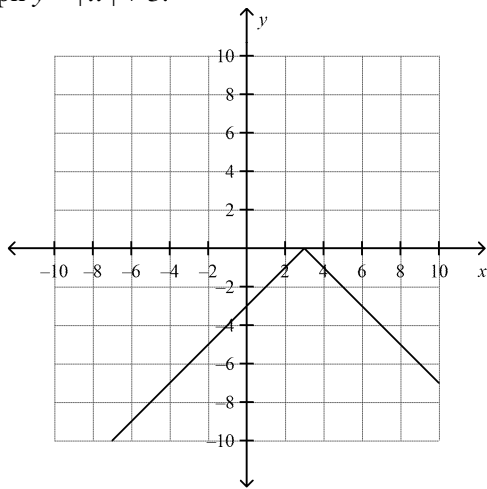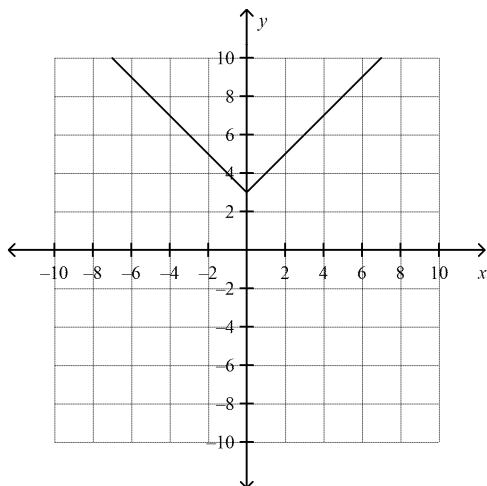
a.

c.

b.

d.

____ 8. Graph $y = |x| + 3$.
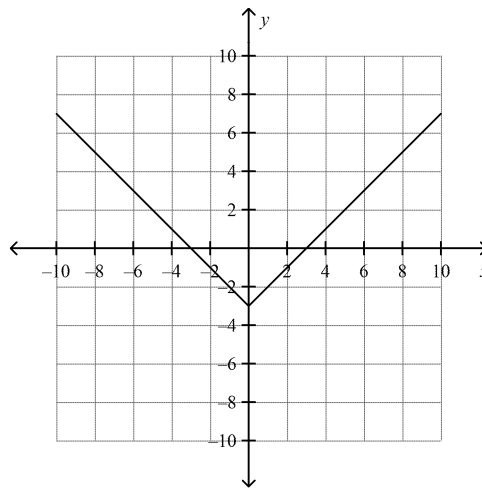
a.

c.
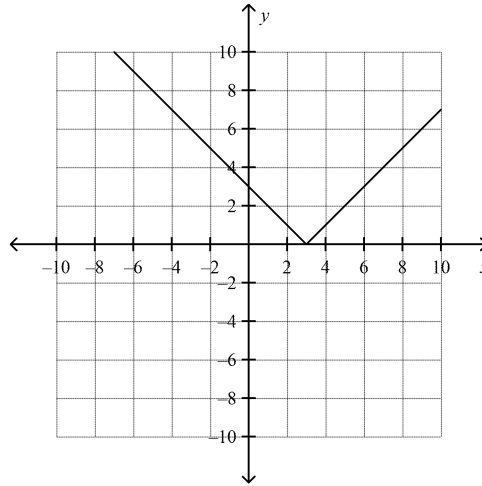

b.

d.

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

____ 9. 6 units down
- a. $y = |x| + 6$
- b. $y = |x| - 6$
- c. $y = |-6x|$
- d. $y - 6 = |x|$

____ 10. 3 units down
- a. $y - 3 = |x|$
- b. $y = |x| + 3$
- c. $y = |x| - 3$
- d. $y = |-3x|$

____ 11. 6.5 units up
- a. $y = |x| + 6.5$
- b. $y = |x| - 6.5$
- c. $y = |6.5x|$
- d. $y + 6.5 = |x|$

____ 12. 5.5 units up
- a. $y = |5.5x|$
- b. $y = |x| + 5.5$
- c. $y = |x| - 5.5$
- d. $y + 5.5 = |x|$

_____ 13. 12.5 units up
   a. $y + 12.5 = |x|$
   b. $y = |x| - 12.5$
   c. $y = |x| + 12.5$
   d. $y = |12.5x|$

_____ 14. 6 units left
   a. $y = |x + 6|$
   b. $y = |x - 6|$
   c. $y = |x| + 6$
   d. $y = |x| - 6$

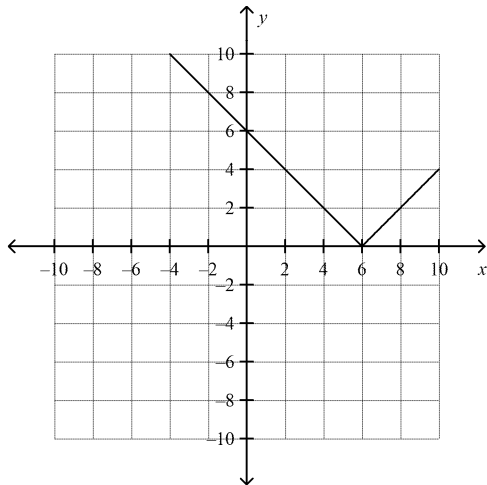_____ 15. 16.5 units right
   a. $y = |x - 16.5|$
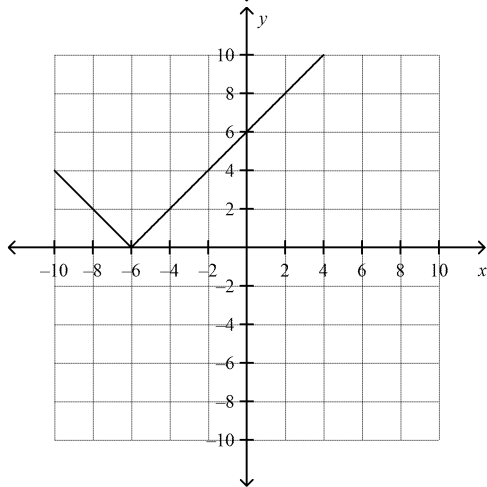   b. $y = |x| + 16.5$
   c. $y = |x| - 16.5$
   d. $y = |x + 16.5|$

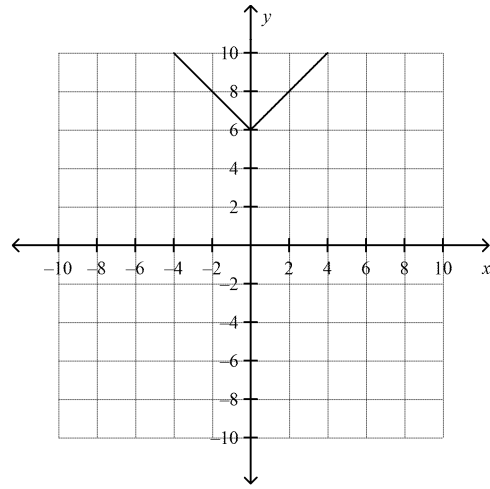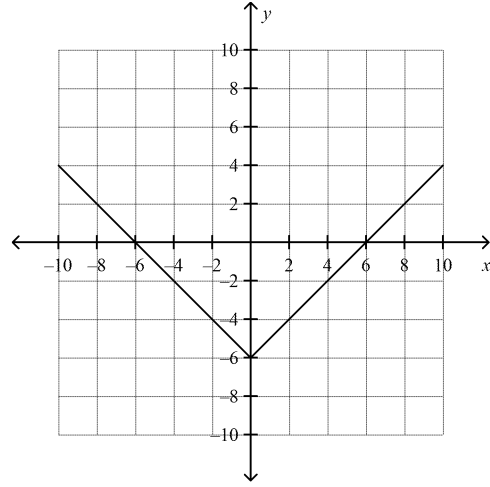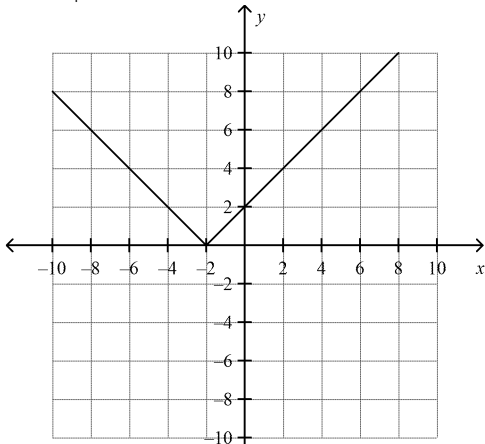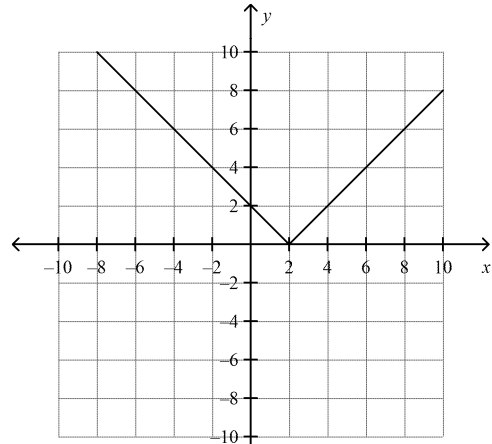**Graph each equation by translating $y = |x|$.**
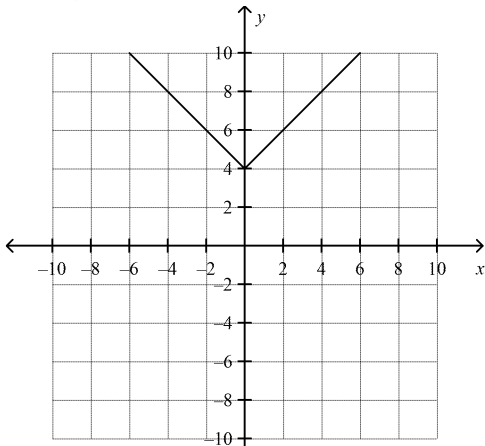
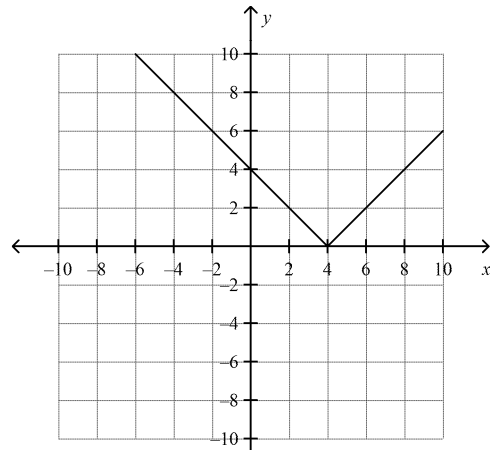_____ 16. $y = |x + 6|$

a.

c.

b.

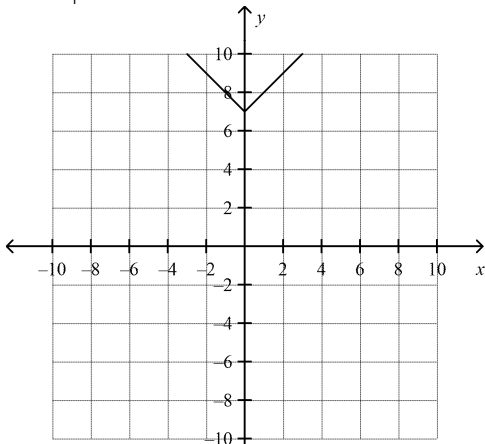
d.

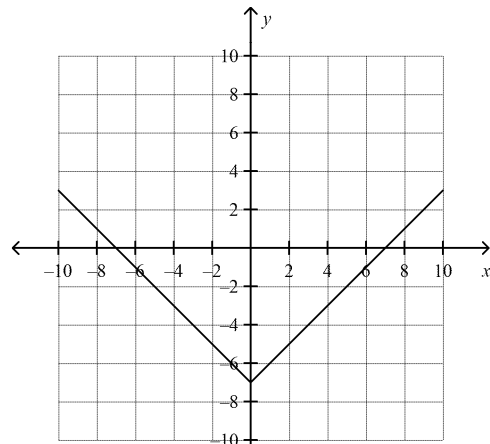_____ 17. $y = |x + 2|$

a.

c.

b.

d.
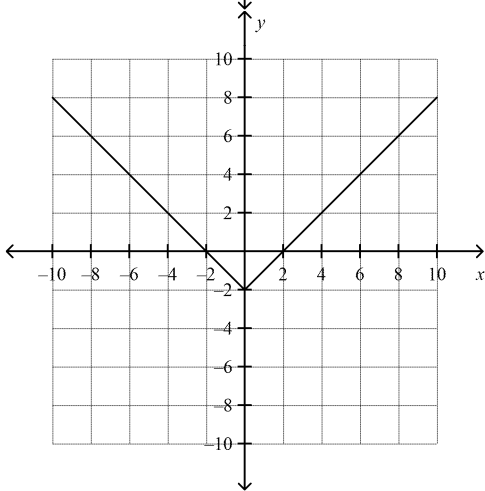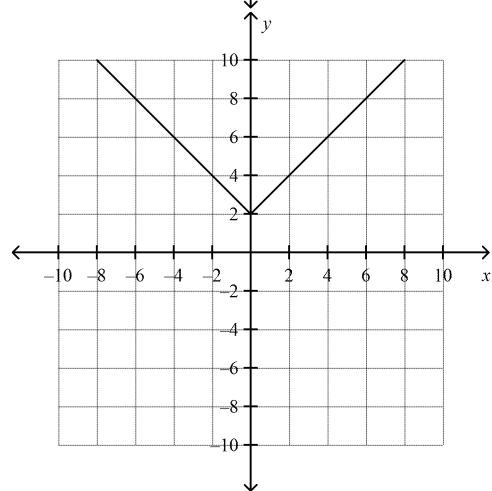
_____ 18. $y = |x + 4|$

a.

c.

b.
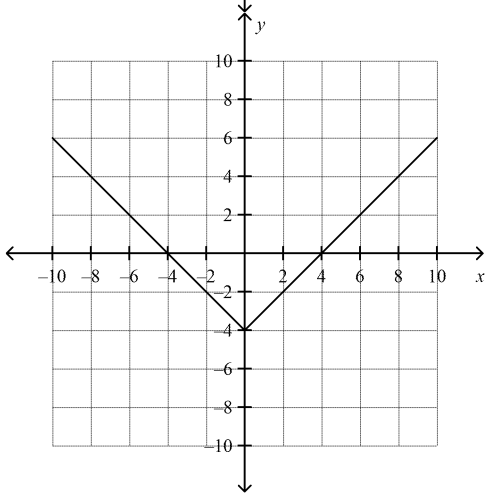
d.
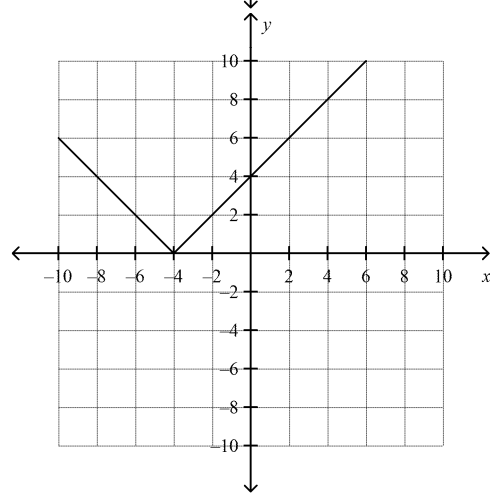
_____ 19. $y = |x - 7|$

a.

c.

b.
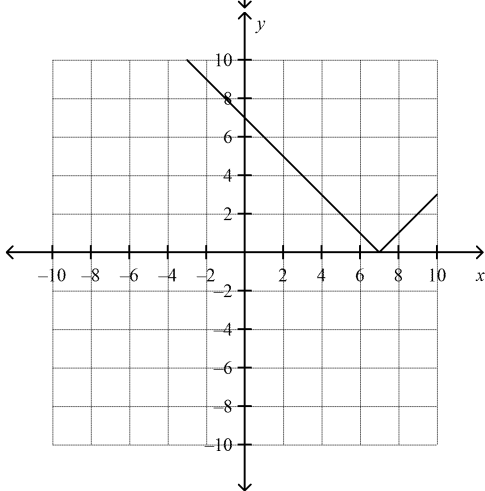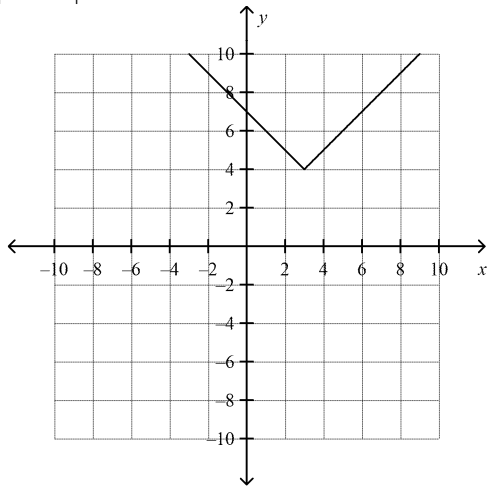

d.
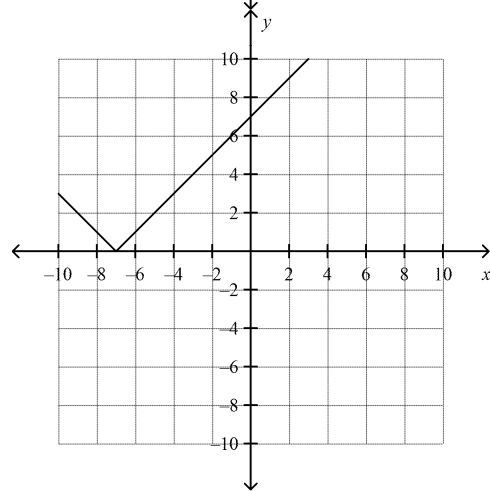
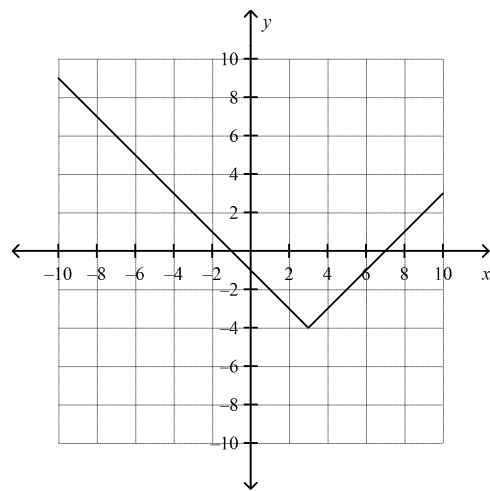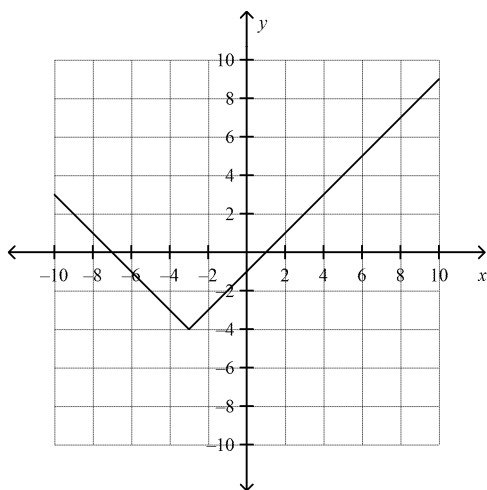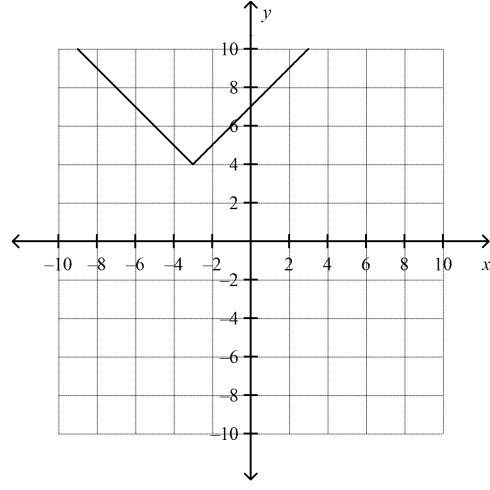____ 20. $y = |x - 3| - 4$

a.

c.

b.

d.

Short Answer

21. Translate $y = \left|\dfrac{1}{3}x\right|$ to graph $y = \left|\dfrac{1}{3}x\right| + 2$