

Taking a Closer Look!

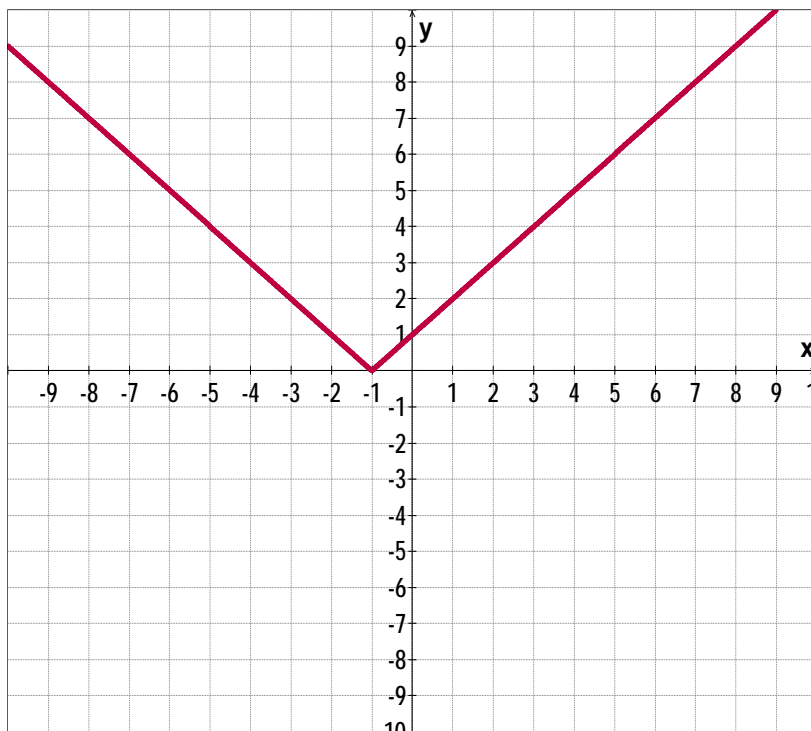
Name ANSWERS

Directions: If a question does not pertain to this graph, write "None".



Graph:

$$y = |x + 1|$$



1. Is it a function? **YES**

2. Domain: **$(-\infty, \infty)$**

3. Range: **$[0, \infty)$**

4. x -intercept(s): **$x = -1$ or $(-1, 0)$**

5. y -intercept(s): **$y = 1$ or $(0, 1)$**

6. Symmetry: **$x = -1$**

7. Where is the graph increasing? **$[-1, \infty)$**

8. Where is the graph decreasing? **$(-\infty, -1]$**

9. Where is $y < 0$? **None**

10. Where is $y > 0$? **$(-\infty, -1) \cup (-1, \infty)$**

11. Where is $y = 0$? **$x = -1$**

12. Find y when $x = -10$. **9**

13. For what x -value(s) is $y = 20$?

$$x = -21, x = 19$$

14. Maximum value of graph: **None - (absolute maximum) approaches ∞**

15. Minimum value of graph: **$y = 0$ (absolute minimum)**

16. Asymptote(s): **None (state equation(s))**

Assuming $y = f(x)$,

17. as $x \rightarrow +\infty$, $f(x) \rightarrow$ $+\infty$

18. as $x \rightarrow -\infty$, $f(x) \rightarrow$ $+\infty$

19. Name given to this graph:

Absolute Value