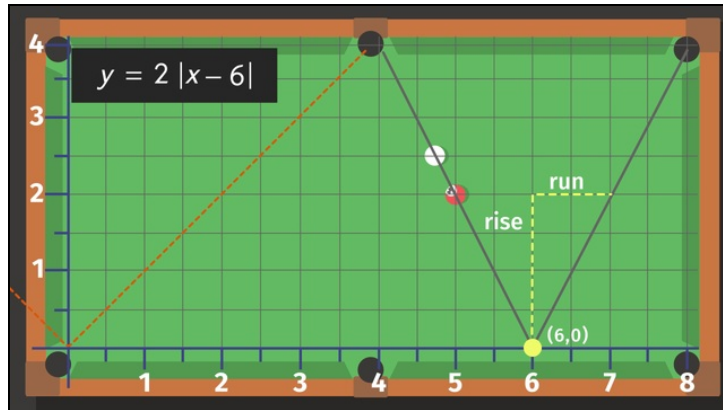




Printable Worksheets from [sofatutor.com](https://www.sofatutor.com)

# Graphing Absolute Value Equations



- 1 Select the graph corresponding to  $y = |x| + 1$
- 2 Summarize the characteristics of the absolute value graph.
- 3 Identify the differences between the new equations and the parent function,  $y = |x|$ .
- 4 Figure out the equation.
- 5 Label the absolute value equations.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.

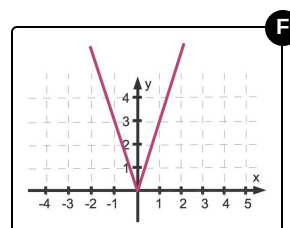
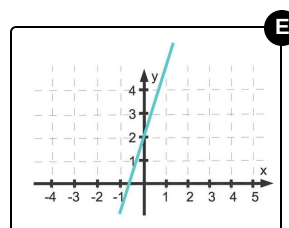
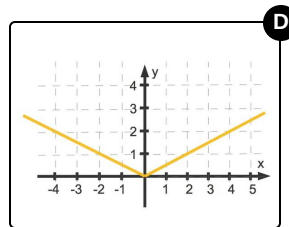
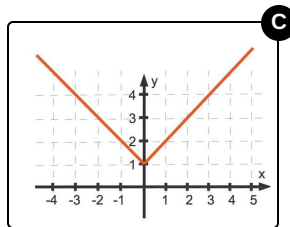
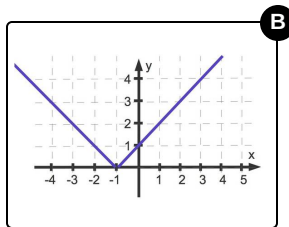
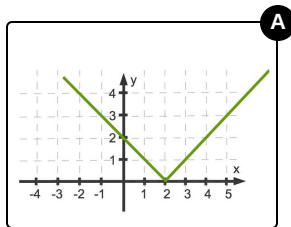


The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Select the graph corresponding to  $y = |x| + 1$ .

Choose the correct graph.





## Hints for solving these problems

1  
of 5

Select the graph corresponding to  $y = |x| + 1$ .

### Hint #1

Adding or subtracting any value inside the absolute value bars will shift the graph left or right along the x-axis.

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### Hint #2

Adding or subtracting any value outside the absolute value bars will shift the graph up or down along the y-axis.

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### Hint #3

Multiplying by a factor greater than 1 leads to a narrower graph, whereas multiplying by a factor less than 1 but more than 0 leads to a wider graph.

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## Answers and detailed answer explanations for these problems

1  
of 5

Select the graph corresponding to  $y = |x| + 1$ .

**Answer key:** C

Starting with the parent function,  $y = |x|$ ,

- adding or subtracting inside the absolute value bars results in a shift along the x-axis
- adding or subtracting outside the absolute value bars results in a shift along the y-axis
- multiplying or dividing outside the absolute value bars leads to a narrower or wider graph

$y = |x + 1|$  The graph is the parent function shifted one unit to the left. This is the blue graph.

$y = |x - 2|$  The graph is the parent function shifted two units to the right. This is the green graph.

$y = |x| + 1$  The graph is the parent function shifted one unit up. This is the red graph.

$y = 3|x|$  The graph is narrower than the parent graph. This is the violet graph.

$y = \frac{1}{2}|x|$  The graph is wider than the parent graph. This is the orange graph.

The turquoise graph is a line corresponding to the linear equation  $y = 3x + 2$ .