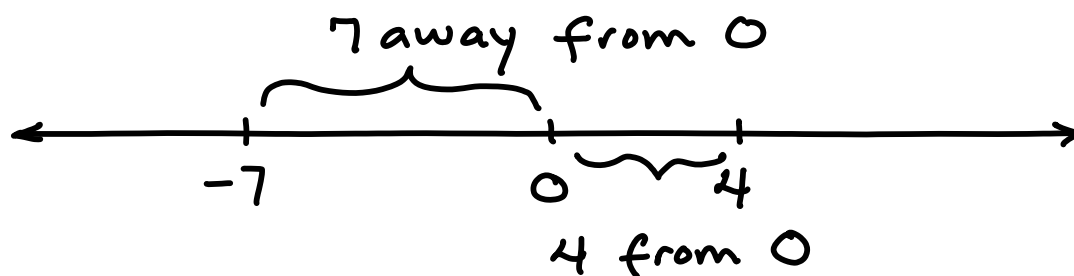


Chapter Review

What is absolute value? It's the distance a number is from zero



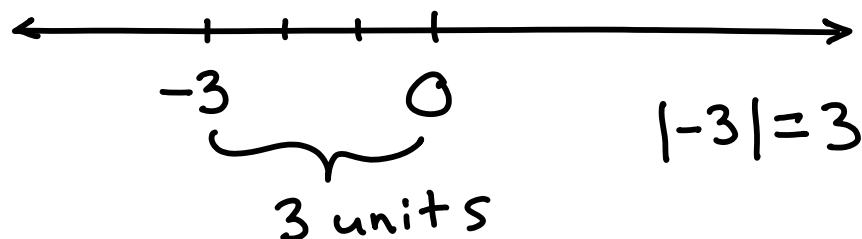
Absolute value is always positive because distance is always measured in positive units.



Evaluating absolute value expressions

$|-3|$ the bars around the -3 is the absolute value symbol

So, for example $|-3|$ means
"how far is -3 from zero?"
answer: 3 units





Sketch the graph of an absolute value equation

Basic shape of an absolute value graph is a "V"

Steps

1. Find the vertex of the graph
2. Determine if the graph is V-shaped or upside down V, i.e. \wedge -shaped.
3. Graph equation, plot more points to make a more accurate graph

Example, graph $y = |x - 5| + 7$

vertex, (x, y) point of the "V"

Step 1 $y = |x - 5| + 7$
Find by setting to zero, solve for x

$$\begin{aligned}x - 5 &= 0 \\x &= 5\end{aligned}$$

Now, find (x, y)

$$y = |x - 5| + 7$$

Vertex located at $(5, 7)$

Step 2

$$y = |x - 5| + 7$$

sign is positive, upward V graph

when sign is negative upside-down V,

Step 3

Graph $y = |x - 5| + 7$

vertex $(5, 7)$, upward-V graph

