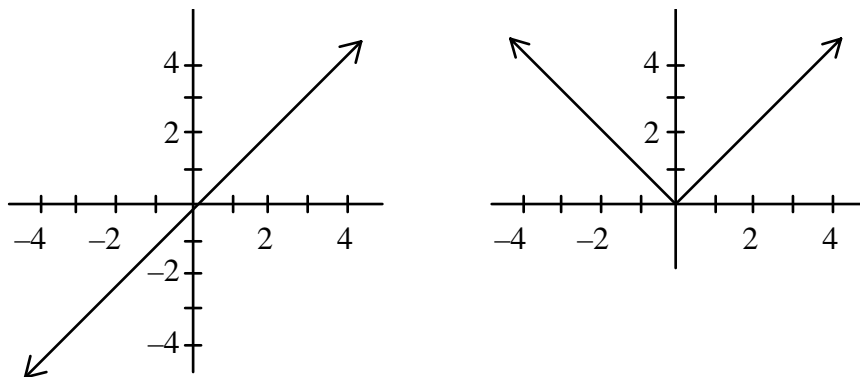


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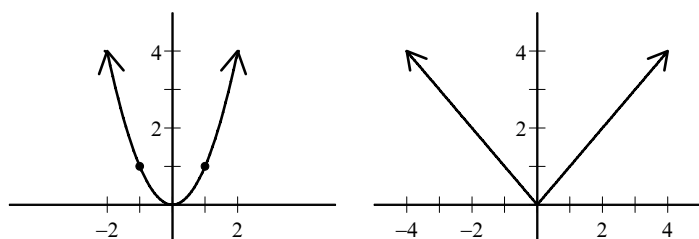
P.I. A.G.4: Identify and graph linear, quadratic (parabolic), and absolute value functions

1. Graph the equations $y = x$ and $y = |x|$. Give as many similarities and differences about these two graphs as you can.
2. Graph the equations $y = x^2$ and $y = |x|$. Give as many similarities and differences about these two graphs as you can.



Similarities: Both go through the origin, both have one side of the graph in the first quadrant, both have the same steepness for the part in the first quadrant. Differences: $y = x$ is in the first and the third quadrants, $y = |x|$ is in the first and the second quadrants. $y = x$ goes below the x -axis, $y = |x|$ does not.

[1] $y = x$ is a straight line, $y = |x|$ is two line segments.



Similarities: Both do not go below the x -axis, both go through the origin, both are in the first and second quadrants. Differences: $y = x^2$ is more curved and steeper than $y = |x|$.

[2]
