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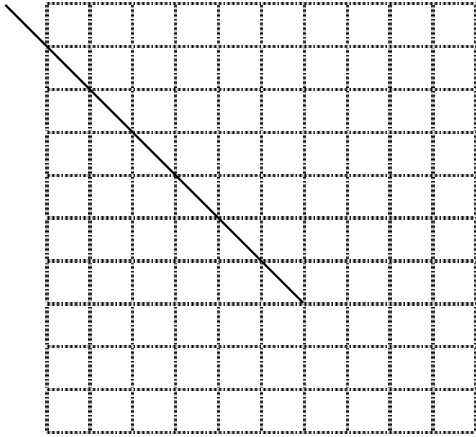
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Lesson:

Think-Pair-Share: Describe the graph below. Then compare it to other graphs we have seen in this class.



Example 1: Graph the piecewise function $f(x) = \begin{cases} 3x - 1 & , \text{if } x \leq 0 \\ -\frac{1}{2}x + 4 & , \text{if } x > 0 \end{cases}$

Think-Pair: Predict what the graph will look like.

Try:

Graph the function $f(x) = \begin{cases} 6, & 0 < x \leq 50 \\ 10, & 50 < x \leq 100 \\ 15, & 100 < x \leq 200 \end{cases}$

Write a scenario represented by this function.

The function describes the cost to ship packages given the weight of the package. It cost \$6 to ship packages weighing 50 pounds or less, \$10 to ship packages weighing over 50 pounds up to 100 pounds, and \$15 to ship packages weighing over 100 pounds up to 200 pounds.

Think-Pair-Share: The functions in example 3 and Try 3 are a specific type of piecewise function called a step function. Why do you think they are called step functions?

SPECIAL STEP FUNCTIONS:

<p>The Greatest Integer Function, or The Floor Function</p> $f(x) = \lfloor x \rfloor$	<p>The Ceiling Function</p> $f(x) = \lceil x \rceil$
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Describes the largest integer n

