

1.3 Piecewise Functions

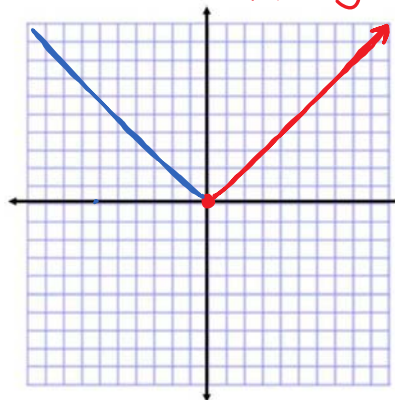
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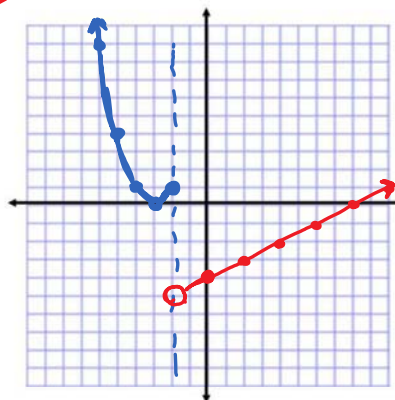
Section 1.3B Notes Piece-Wise Functions

A piece-wise function is *a function made up of different functions in non-overlapping domains*

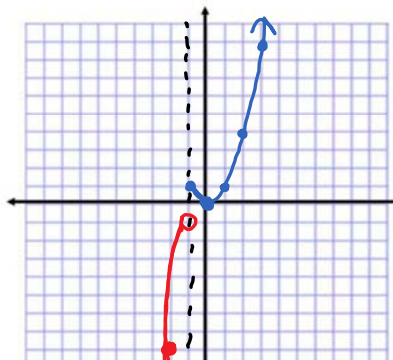
Example: Sketch a graph of $f(x) = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$

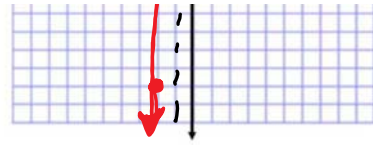


Example: Sketch a graph of $f(x) = \begin{cases} (x+3)^2 & \text{if } x \leq -2 \\ \frac{1}{2}x - 4 & \text{if } x > -2 \end{cases}$

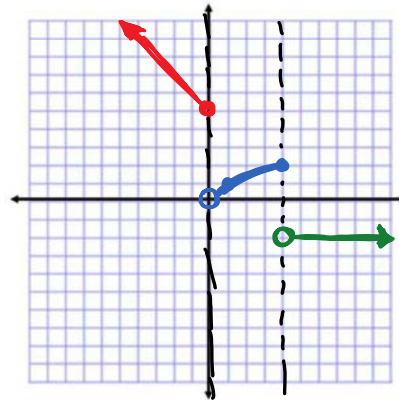


Sketch a graph of $f(x) = \begin{cases} x^2 & \text{if } x \geq -1 \\ x^3 & \text{if } x < -1 \end{cases}$

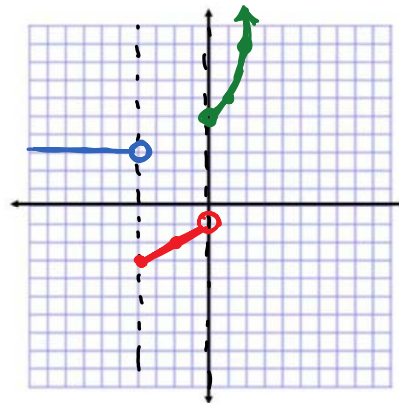




Sketch a graph of $f(x) = \begin{cases} -x+5 & \text{if } x \leq 0 \\ \sqrt{x} & \text{if } 0 < x \leq 4 \\ -2 & \text{if } x > 4 \end{cases}$



Sketch a graph of $f(x) = \begin{cases} 3 & \text{if } x < -4 \\ \frac{1}{2}x - 1 & \text{if } -4 \leq x < 0 \\ x^2 + 5 & \text{if } x \geq 0 \end{cases}$



Sketch a graph of $f(x) = \begin{cases} 5 & \text{if } x < -2 \\ \frac{4}{3}x + 3 & \text{if } -2 \leq x < 0 \\ \ln x & \text{if } x \geq 0 \end{cases}$

