Piecewise Functions

Essential Question

How do I graph a piecewise function?

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Piece Wise Functions

ex.

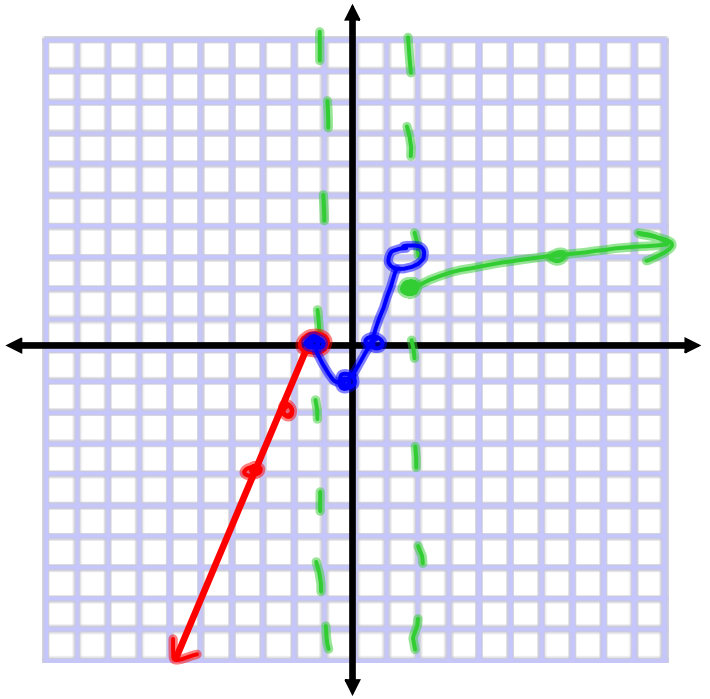
open circle

$$f(x)=\begin{cases}2x+2 & x<-1\\ x^2-1 & -1\le x<2\\ \sqrt{x+2} & x\ge 2\end{cases}$$

x	y
-3	-4
-2	-2
-1	0

x	y
-1	0
0	-1
1	0
2	3

x	y
2	2
7	$\sqrt{9}=3$

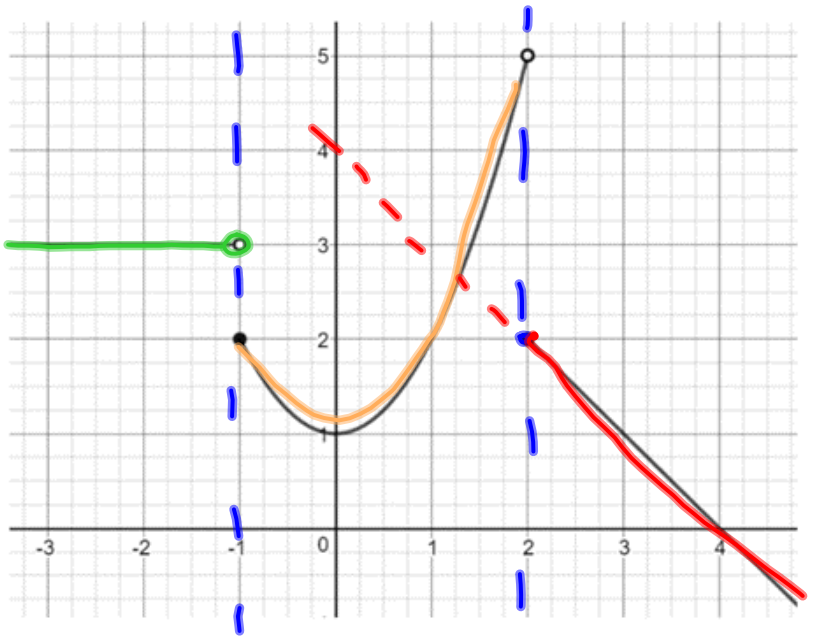


Piecewise Functions

Essential Question How do I graph a piecewise function?

Write the piecewise function defined by the graph.

$$f(x)=\begin{cases} 3 & x<-1 \\ x^2+1 & -1\le x<2 \\ -x+4 & x\ge 2 \end{cases}$$



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Essential Question How do I graph a piecewise function?

f(x)=y

3. If $f(x)=\begin{cases} 3x & x<-2 \\ x^3 & -2\le x<3 \\ -3 & x\ge 3 \end{cases}$, find

$f(-4) = 3(-4) = -12$

$f(-2) = (-2)^3 = -8$

$f(0) = 0^3 = 0$

$f(3) = -3$

$f(7) = -3$


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