



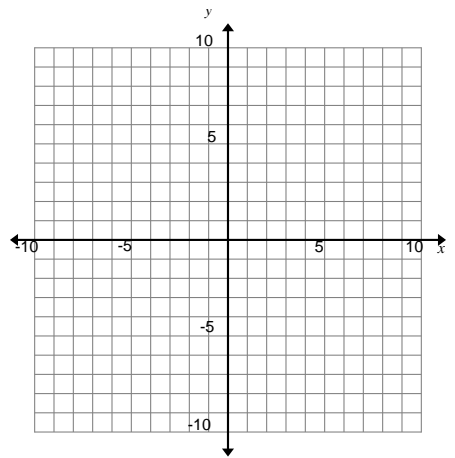
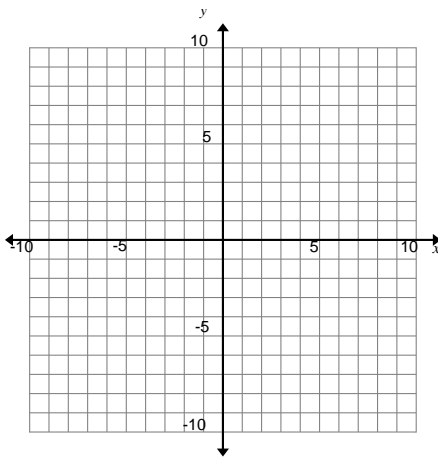
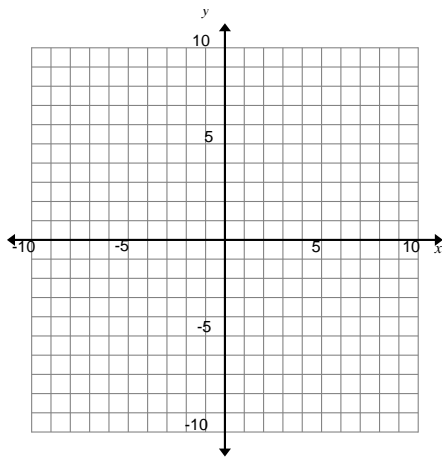
Algebra 2  
Graphing Piecewise Functions Notes

Today I will...	I'll know I've got it when...	Essential Question...

What is a piecewise function?

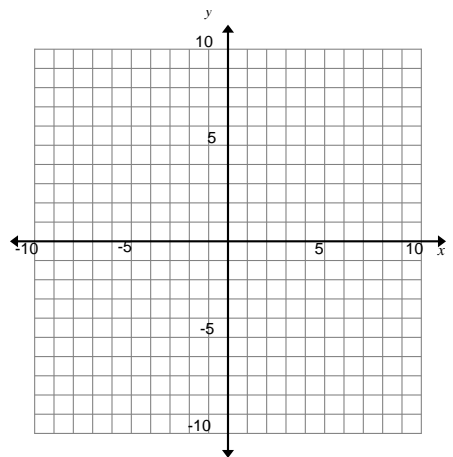
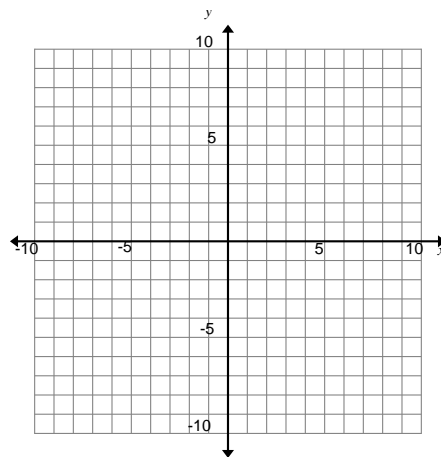
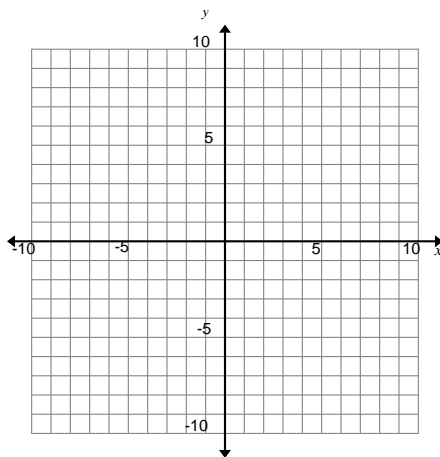
**Example 1:** Graph the piecewise function

$$\left\{ \begin{array}{ll} \frac{1}{2}x - 4 & x \leq 0 \\ -3x + 1 & x > 0 \end{array} \right\}$$



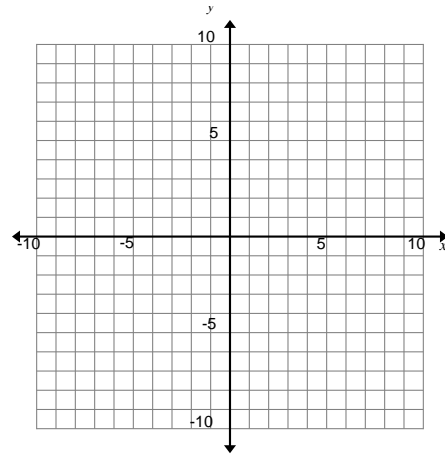
**Example You Try 1:** Graph the piecewise function

$$\left\{ \begin{array}{ll} x + 1 & x \leq 3 \\ 4 & x > 3 \end{array} \right\}$$



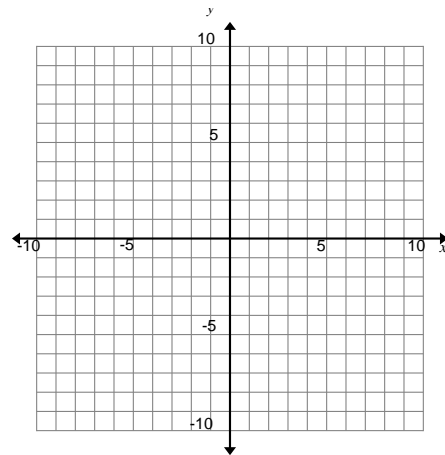
**Example 2:** Graph the piecewise function

$$\begin{cases} |x + 2| & x \leq 0 \\ -x + 4 & x > 0 \end{cases}$$



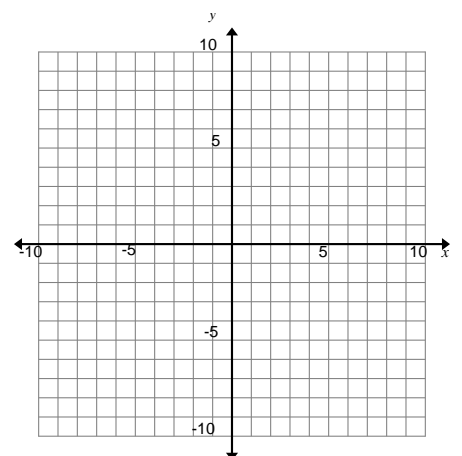
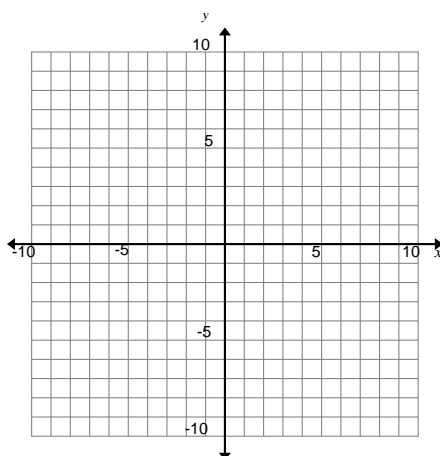
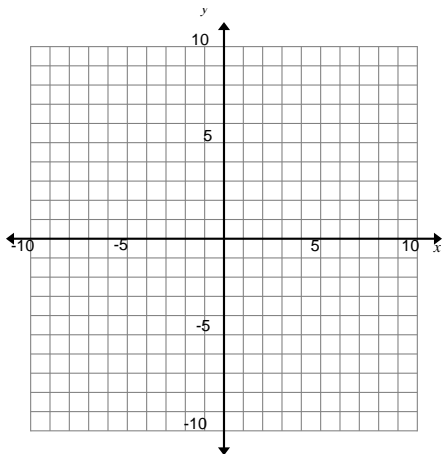
**Example You Try 2:** Graph the piecewise function

$$\begin{cases} -|x| + 4 & -4 \leq x \leq 4 \\ |x| - 4 & 4 < x < 9 \end{cases}$$

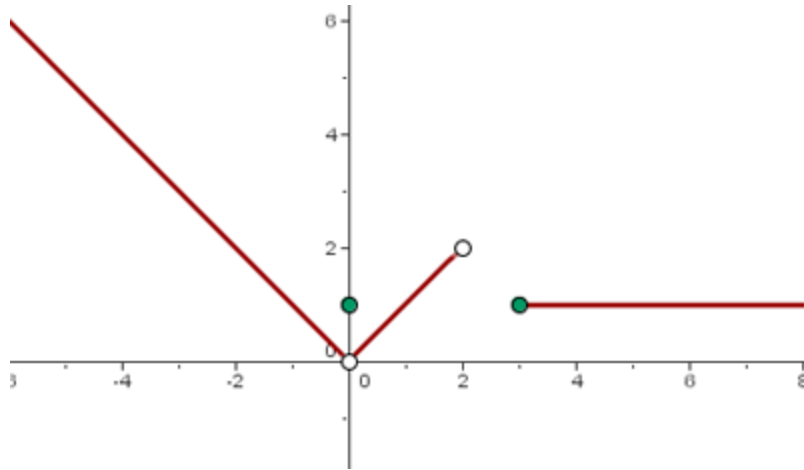


**Example You Try 3:** Graph the piecewise function using the method of your choice.

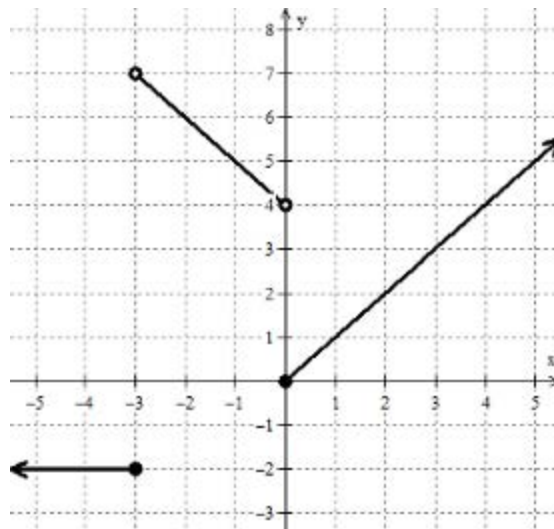
$$\begin{cases} x + 1 & x < 3 \\ |x| & x \geq 3 \end{cases}$$



**Example 4:** Write a piecewise function for the graph below.



**Example You Try 4:** Write a piecewise function for the graph below.



**Example 5:** Graph the ceiling function (least integer function)  $y = \lceil x \rceil$ .

