Piecewise Function Worksheet 1

Name _____

Block _____ Date_____

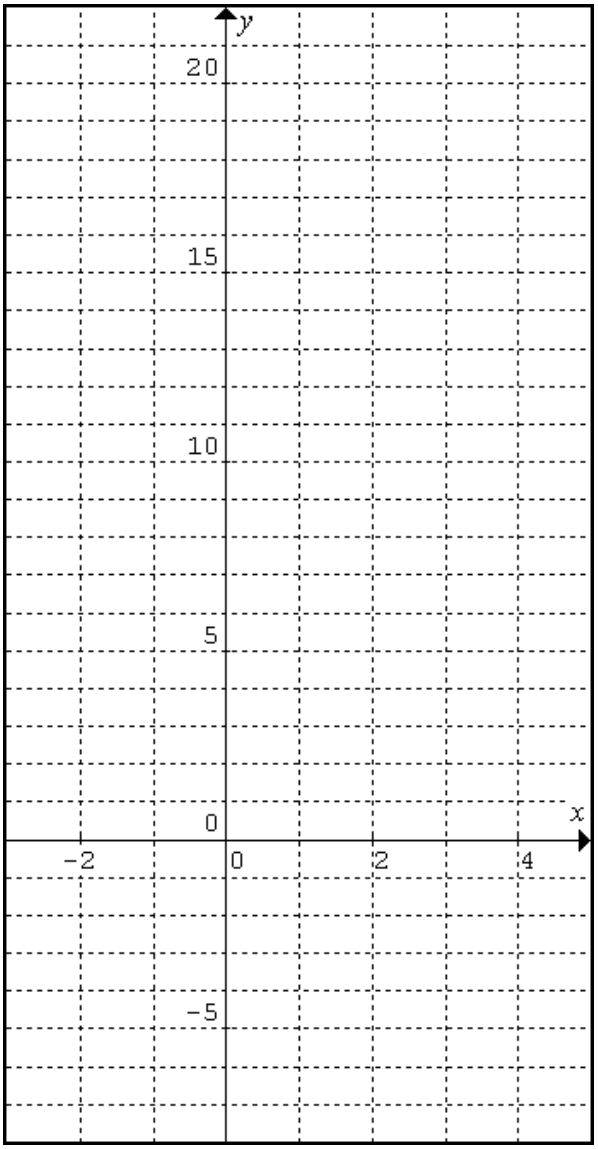
1. The equation $y = \begin{cases} x+2 & x < -1 \\ x^2 & x \geq -1 \end{cases}$ makes one graph from two pieces – it's called a piecewise function.

   For $x < -1$ (x-values less than -1), we use the equation $x + 2$. For $x \geq -1$ (x-values greater than -1, and including -1), we use the equation x^2.

   Complete the tables of values and draw the graph of y.

x	$y = x + 2$	$y = x^2$
-3		
-2		
-1		
0		
1		
2		
3		
4		

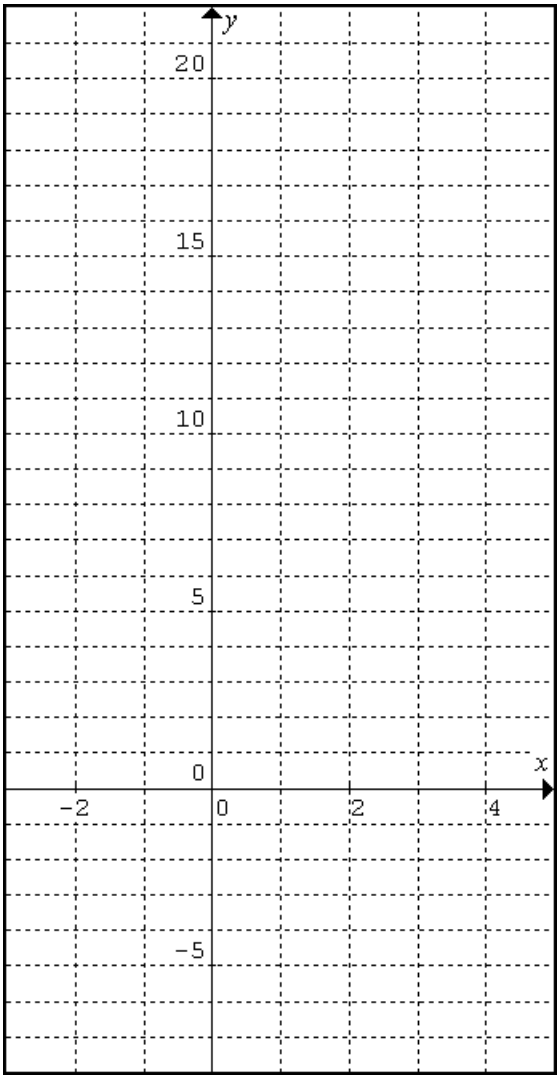
Since this is an end point for each interval, you must check if these points have OPEN or CLOSED circles



2. Make a table and graph for the equation $g(x) = \begin{cases} 2x+2 & x < 1 \\ x^2+3 & x \geq 1 \end{cases}$.

For $x < 1$ (x-values less than 1), we use the equation $2x+2$. For $x \geq 1$ (x-values greater than 1, and including 1), we use the equation x^2+3.

x	$y = 2x + 2$	$y = x^2 + 3$
-3		
-2		
-1		
0		
1		
2		
3		
4		



3. a. Write the piecewise function for the graph shown.

   b. Name the domain and range.