Math 3/Precalc

Piecewise Functions Notes

Name: _____

Date: _____

Period:____

G___

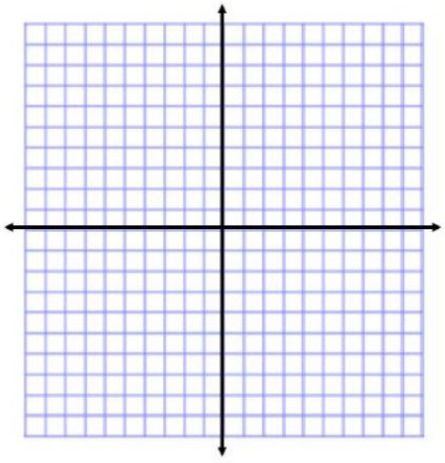
Consider the function $g(x) = \begin{cases} x^2 + 2 & \text{for } x \le 1 \\ 2x + 7 & \text{for } x > 1 \end{cases}$

Complete the tables for $g(x)$ below.

For $x \le 1$	
x	$g(x) = x^2 + 2$
–5	
–4	
–3	
–2	
–1	
0	
1	

For $x > 1$	
x	$g(x) = 2x + 7$
1	
2	
3	
4	
5	
6	
7	

Using your table, make a careful sketch of the graph $y = g(x)$. Recall the use of open circles to indicate that an endpoint *is not* included and closed circles to indicate that an endpoint *is* included. At which points will the open and closed circles be located on this graph?



What are the domain and the range of this function?

Domain:

Range:

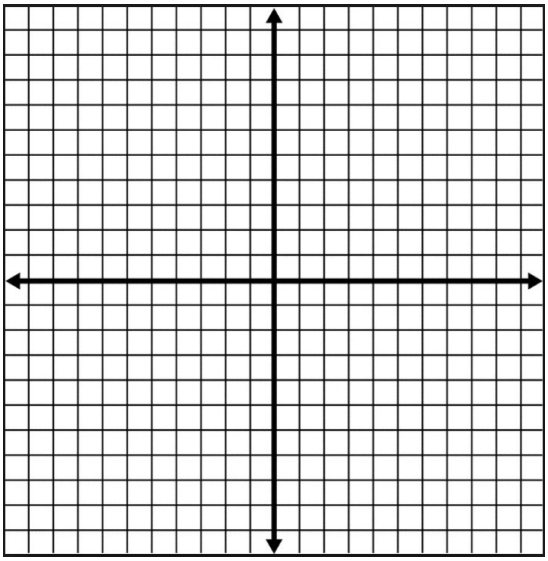
Is the piecewise function continuous? Why or why not?

Let $f(x) = \begin{cases} x^2 + 2 & \text{for } x \le 2 \\ \frac{1}{2}x + 5 & \text{for } x > 2 \end{cases}$

Complete the tables below for $f(x)$.

for $x \le 2$		for $x > 2$	

Graph $f(x)$ below:



State the domain and range of $f(x)$.

Domain:

Range:

Is the function continuous? Why or why not?

Completely describe the function $f(x)$.