Name _____ Date _____

CC Algebra Period _____

Writing Piecewise Functions from a Given Graph

Procedures:

1. Set up your piecewise function like this. It all depends on how many pieces there are.

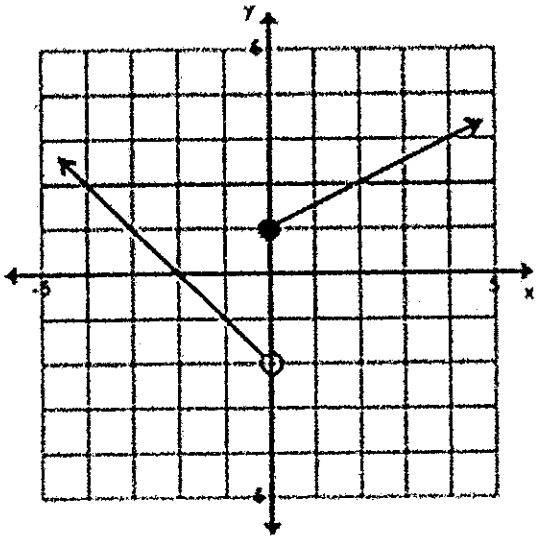
$$f(x)=\begin{cases} \quad ,if \\ \quad ,if \\ \quad ,if \end{cases}$$

2. If the functions are linear, find the slope (m) and y-intercept (b) of each piece and write it in the form y = mx + b. Only the expression part of the equation will be written in the final answer. *Always determine the equations of the lines as they appear from left to right on the graph, so your domain will always be in numerical order

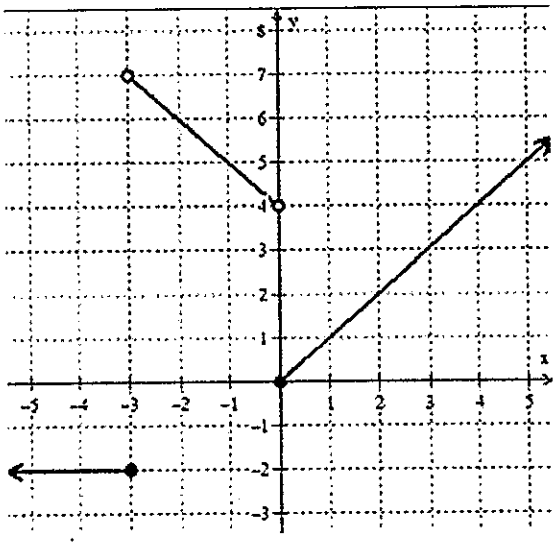
3. Find the domain for each piece. Write the domain next to its corresponding expression.
*Read graphs from left to right for the domain so it will always be in numerical order
*arrow on 1 end + dot on the other = single constraint ** dots on both ends (No arrows) = compound inequality (double constraint)

Write the piecewise function for each graph shown.

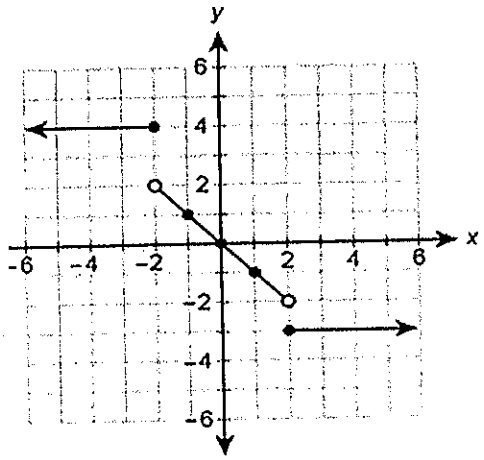
1.



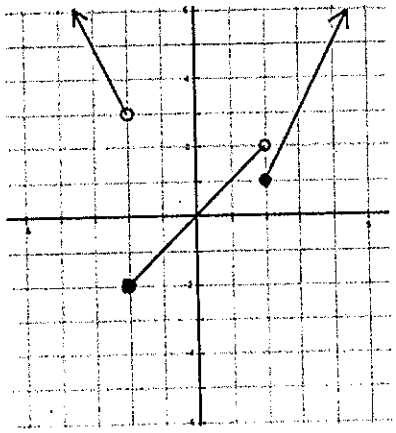
2.



3.


y
x
6
4
2
-2
-4
-6
-6
-4
-2
2
4
6

4.



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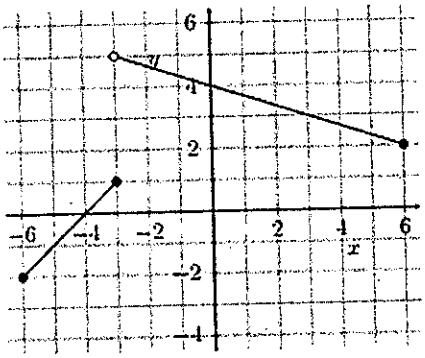
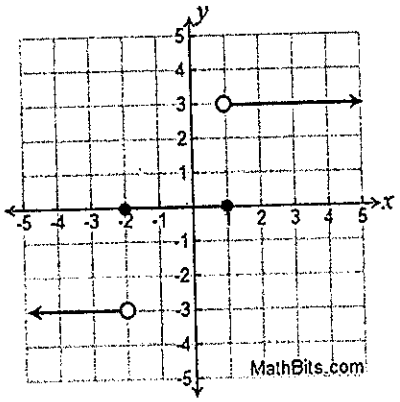

6
4
2
-2
-4
-6
-4
-2
2
4
6
x

6.


y
x
5
4
3
2
1
-1
-2
-3
-4
-5
-5
-4
-3
-2
-1
1
2
3
4
5
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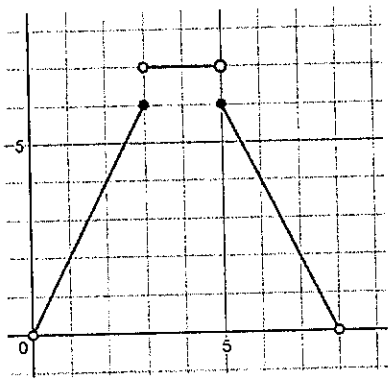
7.


-5
0
5