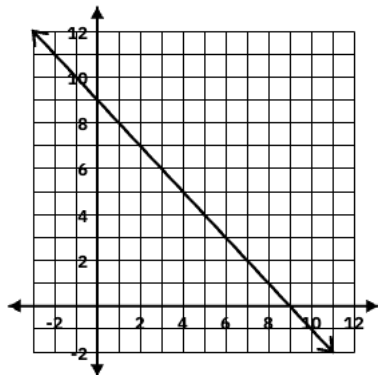


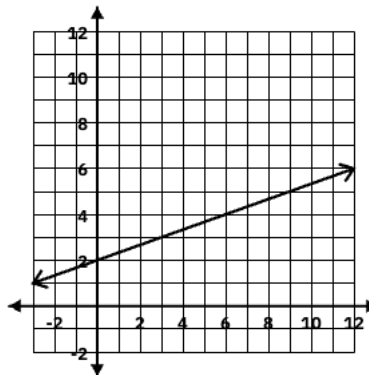
Part One: Restrictions on the Domain

For each of the following graphs and using a highlighter, highlight the graph to show the parts that would be kept after the domain restriction. Make sure that open and closed circles are obvious!

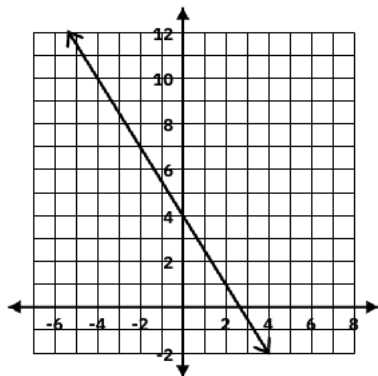
Ex 1. $x \geq 3$



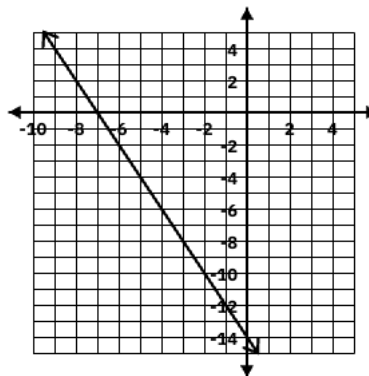
Ex 2. $3 < x < 10$



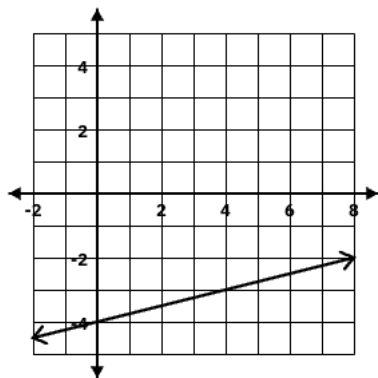
1. $x \geq -1$



2. $-2 < x \leq 0$



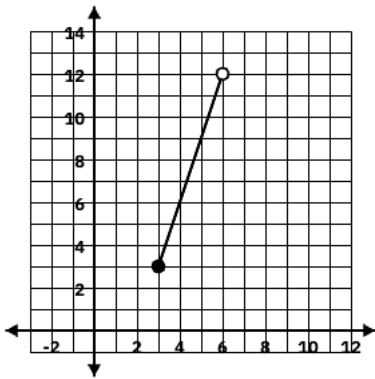
3. $x < 8$



4. Write the equations for each line in problems 1 - 3. Your answers should be fast and perfect.

Part Two: Writing Piece-Wise Equations One Segment at a Time.

Ex 3 the graph of $f(x)$ is below

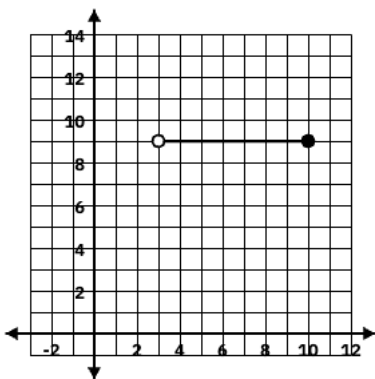


a. Find the equation for function f . State any domain restrictions.

b. Evaluate $f(4)$ or state why it is not possible to do so.

c. Evaluate $f(10)$ or state why it is not possible to do so.

5. the graph of $g(x)$ is below

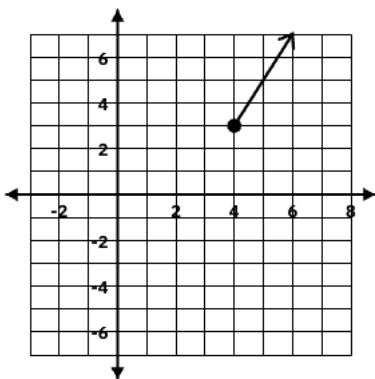


a. Find the equation for function g . State any domain restrictions.

b. Evaluate $g(2)$ or state why it is not possible to do so.

c. Evaluate $g(5)$ or state why it is not possible to do so.

6. the graph of $h(x)$ is below



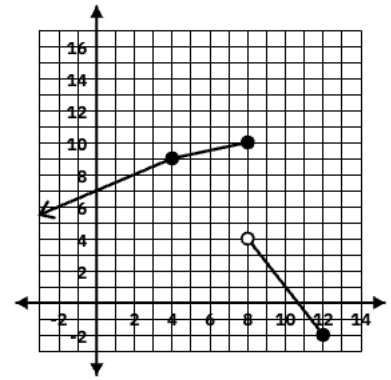
a. Find the equation for function h . State any domain restrictions.

b. Evaluate $h(4)$ or state why it is not possible to do so.

c. Evaluate $h(100)$ or state why it is not possible to do so.

Part Three: Put it all Together

Ex 4. Find the equation for the function m to the right. Include domain restrictions for each segment.



Ex 5. Evaluate the following, or state why it is not possible to do so.

- a) $m(-2)$ b) $m(8)$ c) $m(12)$

- d) $m(14)$

Ex 6. Is m a function? Explain using the graph.

7. Your turn!

	<p>a) Find the equation for the function p.</p>
<p>b) Evaluate the following, or state why it is not possible to do so.</p> <p>$p(-2) = \underline{\hspace{2cm}}$ $p(0) = \underline{\hspace{2cm}}$</p> <p>$p(2) = \underline{\hspace{2cm}}$ $p(6) = \underline{\hspace{2cm}}$</p>	<p>c) Is p a function? Explain using the graph.</p>

Part 4: Application

You work at Crumbl Cookies. Monday at lunchtime, your shop started off with 100 cookies. Each of your lunchtime customers buy 2 cookies because of your lunch special. When you noticed that you had only 40 cookies remaining, you baked an additional 80 cookies to last until the end of the day. For the rest of the day, your customers would come in and buy only 1 cookie each until you ran out.

1. Create a graph that shows $N(c)$, the function that models how many cookies you have after c customers.



2. Label the points on the graph where the “action” happens.

3. For the graph that you have created, write the equation for this piece-wise function. You should be using the points you labeled to help you find the equations.

4. How many cookies did you have remaining after your first 20 customers? Include units in your answer.

5. If at the end of the day, you still had 15 cookies left, then how many customers did you serve that day?