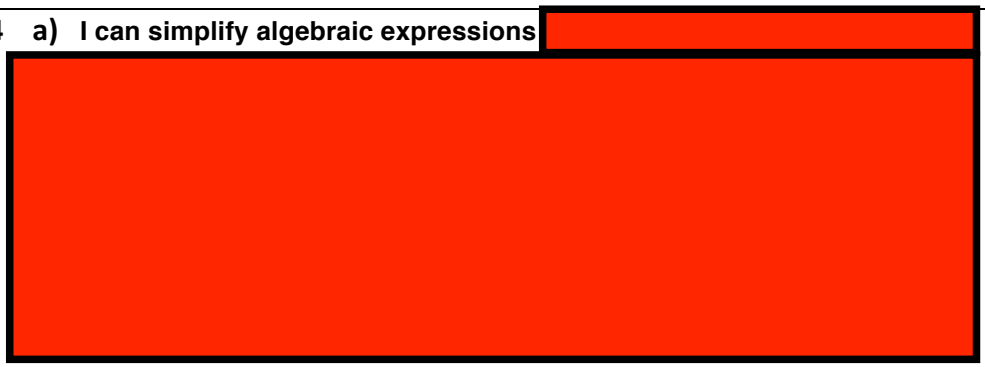
Unit 1 Learning Goals Check List:

section	Learning Goal	✔
1.1	**a) I can write algebraic expressions from verbal descriptions** **Ex.** The length of my car is 3 feet less than twice its width **Ex.** Write an algebraic expression for the perimeter of a rectangle, whose length is 5 less than 3 times its width. **b) I can write verbal descriptions from algebraic expressions.** **Ex.** Write a verbal expression that could generate the algebraic expression 3(x + 10)- 4 .	
1.2	**a) I can evaluate algebraic expressions using correct order of operations** **Ex.** $3+42\bullet 2-5$ **ex.** $25+\left[(16-3\bullet 5)+\frac{12+3}{5}\right]$ **b) I can evaluate algebraic expressions by substituting given values for variables.** Evaluate each expression if a = -2; b = -4; and c = -6 **ex**. $\frac{3ab-c^2}{a}$ **ex**. $2a+4b-c$	

1.3/1.4 a) I can simplify algebraic expressions



ex. $3\left[\frac{1}{2}(4x-6)-2(3x-4)\right]$

1.5 a) I can solve equations and write my answers as a solution set.

ex. find the solution to the equation 2q + 5 = 13

b) I can solve equations and recognize contradictions (no solution) and identities (solution = all real numbers).

ex. $12(10-7)+9g=g(2^2+5)+36$

ex. $2d+(2^3-5)=10(5-2)+d(12\div 6)$

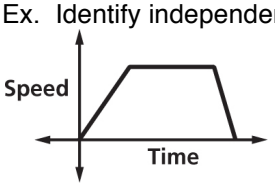
1.6 I can identify domain & range; independent & dependent variables.

ex. Find the values in the range of g(x) = 2x - 7 for the domain values {-1, 0, 1}

Ex. When your little brother stops up the drain, the plumber charges your mom $90 for a service call, plus $45 for each hour that he is working to repair the problem. Write & evaluate an equation to find how much the bill was if it took the plumber 3 hours to fix the drain. Identify the independent & dependent variables.

ex. Your 30 gallon aquarium has sprung a leak and you want to fix it with underwater sealer, but you have to go to the store and find it. The water is draining at approximately two gallons per hour. Write an equation to model the amount of water remaining as a function of time, with **w** being water level and **h** being number of hours that the tank has been leaking. Identify the independent and dependent variables and a **reasonable domain & range.** Evaluate how much water is left in the aquarium if it took you 3 hours to find the sealant.

I can identify independent & dependent variables from graphs and describe what is happening.
Ex. Identify independent & dependent variables and write a description from the graph.

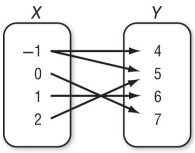


1.7 I can identify functions from multiple representations.

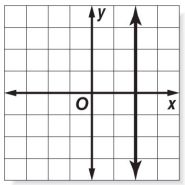
Ex. determine if each example represents a function. State why or why not.

a. **{(1,1),(2,1), (3,1),(4,1)}**

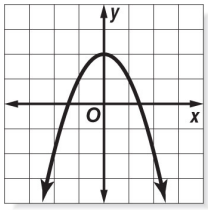
b.



c.



d.



I can identify function values.

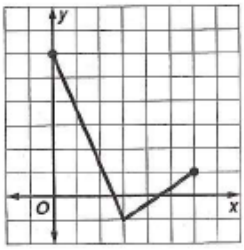
Ex. $f(x) = 3x - 5$ **and** $g(x) = 2 - x^2$

g(-1)=

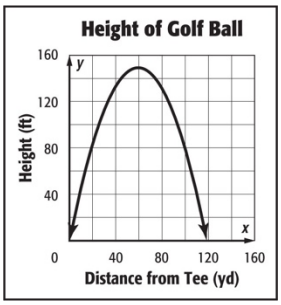
f(6) - g(4) =

f(x)= 31

I can identify domain & range from a graph.



1.8 I can interpret graphs of functions, including identifying x & y intercepts. relative extrema, increasing and decreasing intervals, & ending behavior



X intercepts:
meaning:

Y intercept:
meaning:

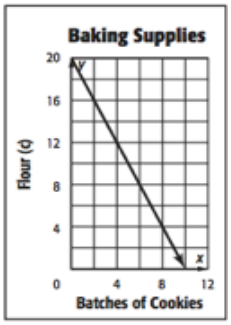
Symmetry:

Relative extrema:
meaning:

Linear/non-linear?

Increasing & decreasing intervals and their meaning.

What does the point (20,80) represent on the graph?



X intercept:
Meaning:

Y intercept:
meaning:

Symmetry:

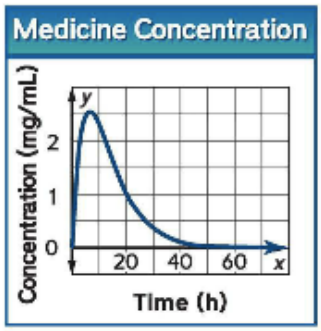
Relative extrema:

Increasing & decreasing intervals and their meaning.

Reasonable domain & range:

Linear/non-linear?

What does the point (4,12) represent on the graph?



X intercept:
Meaning:

y intercept:
meaning:

Relative extrema:
meaning:

Symmetry:

linear/non-linear