EXAM REVIEW 1st Semester

Unit 4: Functions   Name:
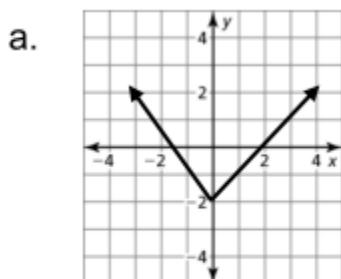
Hour:

Vocabulary:

Domain

Range:

Function:

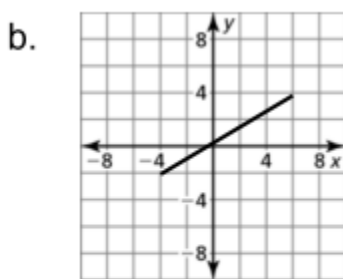Function Notation:

Practice Problems:

1. Find the domain and range of the function represented by the graph.

a.

Domain: _____
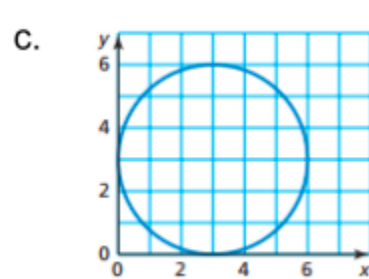
Range: _____

Function: _____

b.

Domain: _____

Range: _____

Function: _____

c.

Domain: _____

Range: _____

Function: _____

2. Determine if the relation is a function: If not – explain why

a.

Input, x	8	4	2	4	8
Output,	−4	−2	0	2	4

b.

Input, x	0	2	4	6	8
Output,	3	7	11	15	19

c.
$(1,2), (2,3), (2,5)(4,8)$

3. Write Ordered Pairs that are:

a. Function: $(1,2), (2,3), (\ , \ )$

  Non-Function: $(1,2), (2,3), (\ , \ )$

b. Draw a Function graph:

c. Draw a NON Function graph
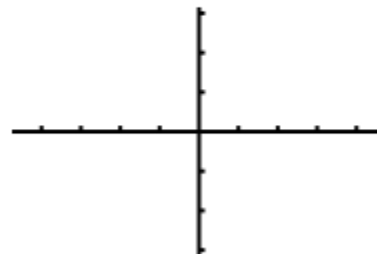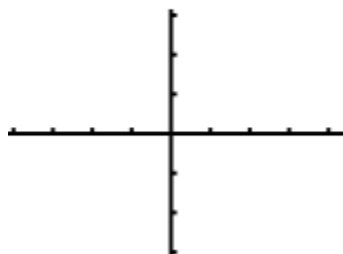
4. Solve the following:

   a. $f(x) = 2x - 6$, solve for x when $f(x) = 10$

   b. Given $h(x) =- 3x - 10$, find $h(-3)$

Vocabulary:
Average Rate of Change:

Practice Problems:
5. Given the following data, find the average rate of change between:

   a. $x =- 1$ and $x = 1$ b. $x = 2$ and $x = 4$

x	−1	0	1
$s(x)$	0	3	6

x	0	2	4
$t(x)$	8	4	0

Vocabulary:
Piecewise Functions:

Practice Problems:
6. Graph the following function and answer the questions below:
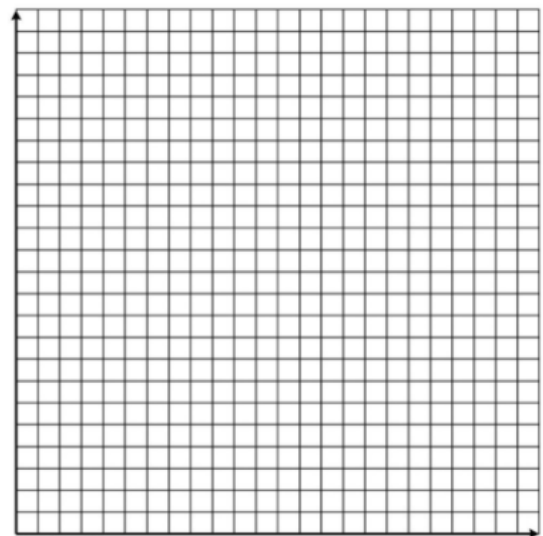
$$f(x) = \begin{cases} 0, & 0 < x < 5 \\ 5, & 5 \le x < 11 \\ 7, & 11 \le x < 16 \end{cases}$$

Evaluate:

   b. $f(5) =$

   c. $f(12) =$

   d. $f(0) =$

Vocabulary:
Absolute Value function:
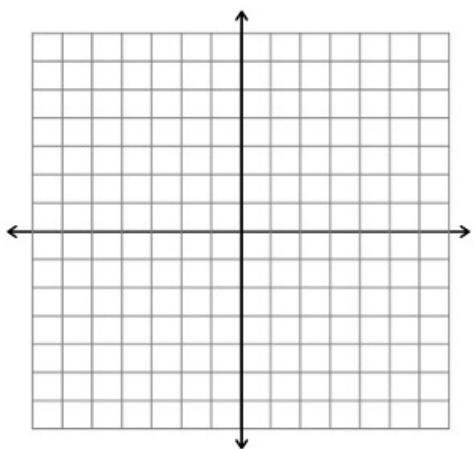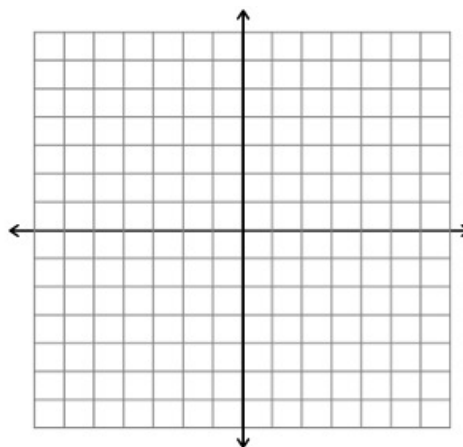
Patterns of shifting the graph:

| x |

| y |

Practice Problems:
7. Graph the following equations
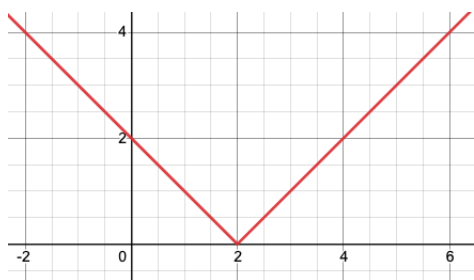
a. $g(x) = |x - 2| + 3$

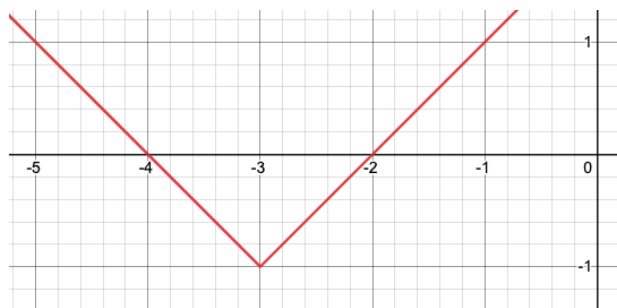b. $f(x) = |x + 2| - 4$

8. Write the equations for the following graphs:

a.

b.

Vocabulary
Inverse Function

Practice Problems:
9. Find the inverse function

a. $m = 3g + 10$

b. $g = \dfrac{3w}{10}$

c. $f = 2(3x - 2)$