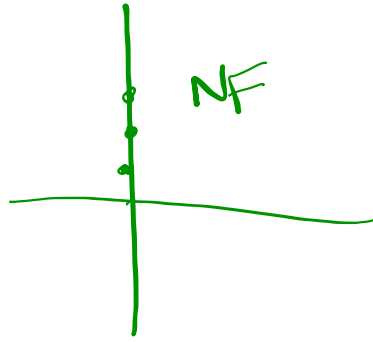
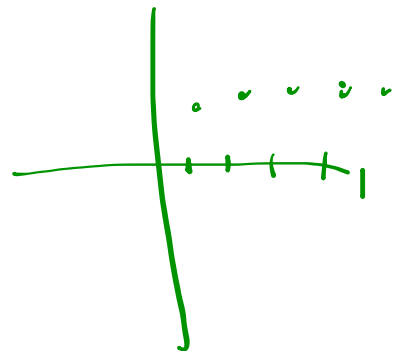
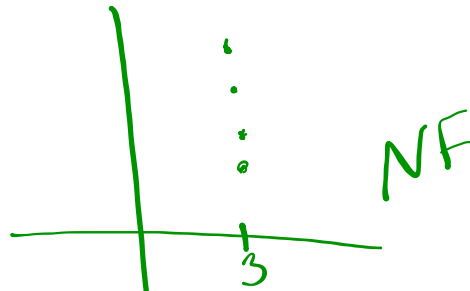


$(0, 1)$   
 $(0, -1)$  NF

$\{1, 2, 3, 4\}$   
 $\{3, 6, 9, 12\}$



1  
2  
3  
4  
5  
6



$$4a) \quad D: \{-2, -1, 0, 1, 2\}$$

$$R: \{-4, -2, 0, 2, 4\}$$

$$c) \quad -3 \leq x \leq 3$$

$$y = 2$$

7. a) iv  
b) i  
c) ii  
d) iii

$$8. \quad \underbrace{9a^2} + \underbrace{9a} + \underbrace{36} \\ (3a + 6)^2$$

$$9(a^2 + a + 4) \\ \text{simple.}$$

$$a^2 + \underbrace{2ab} + b^2 \\ a^2 - 2ab + b^2$$

5. b)  $(0, 1)$  non function  
 $(0, -1)$

d) non-function

$$D: \{1, 2, 3, 4\} \\ R: \{3, 6, 9, 12\}$$

$$8. a) \{1, 2, 3, 4\}$$

$$\{1, 8, 27, 64\}$$

$$1 \leq x \leq 6$$

$$b) x: \{3\}$$

$$y: \{4, 5, 6, 7\}$$

$$9. a \text{ Range } \{2.39, 4.00, 6.39, 8, 10.39, 12\}$$

$$4. c) \{x \mid -3 \leq x \leq 3, x \in \mathbb{F}\}$$

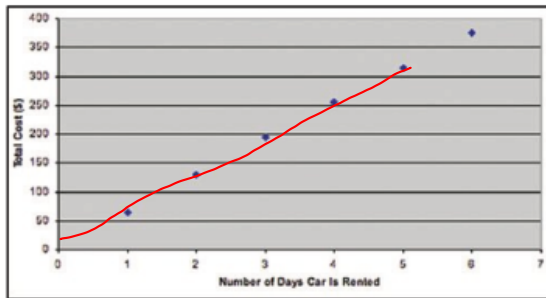
$$\{y \mid y = 2\}$$

- 7. a) iv
- b) i
- c) ii
- d) iii

**Take a look at Domain & Range!!**

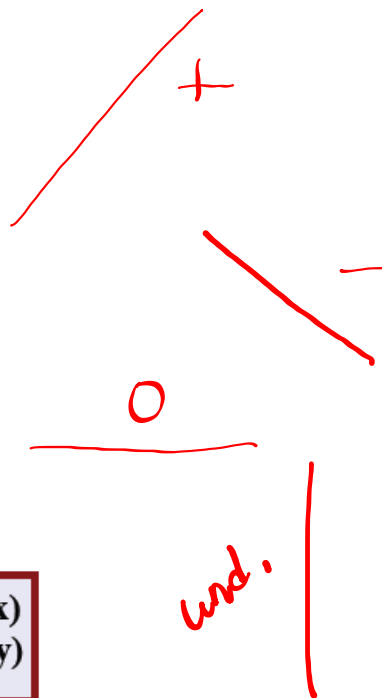
**Domain** {1, 2, 3, 4, 5, 6}

**Range** {65, 130, 195, 255, 315, 375}



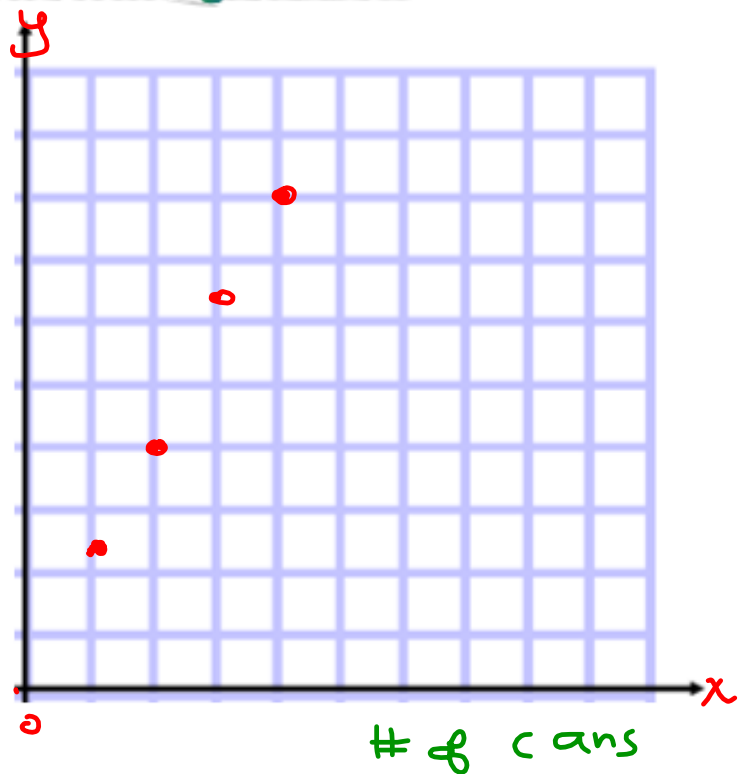
**What do you notice?**

**Domain** : represents the values of x (limits on x)  
**Range**: represents the values of y (limits on y)

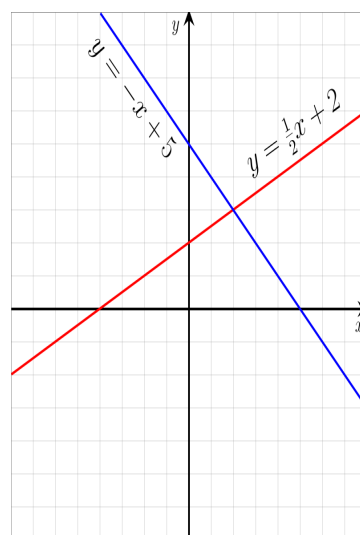


## Graph the Following Relation

Ind	Dep
Number of Cans of Juice Purchased, $n$	Cost, $C$ (\$)
1	2.39
2	4.00
3	6.39
4	8.00
5	10.39
6	12.00



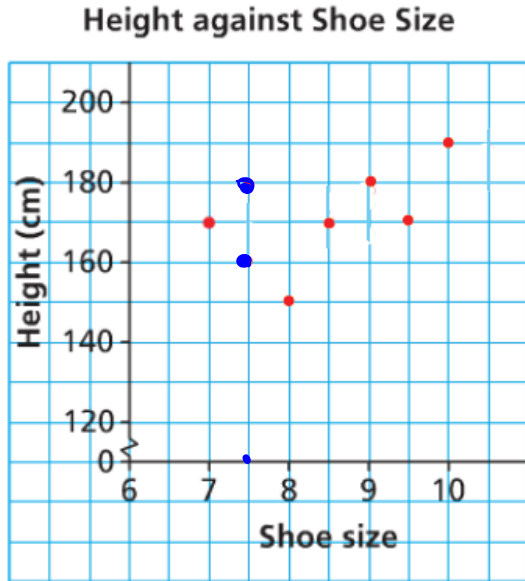
Linear function:  
relationship forms a straight line



Non-linear function:

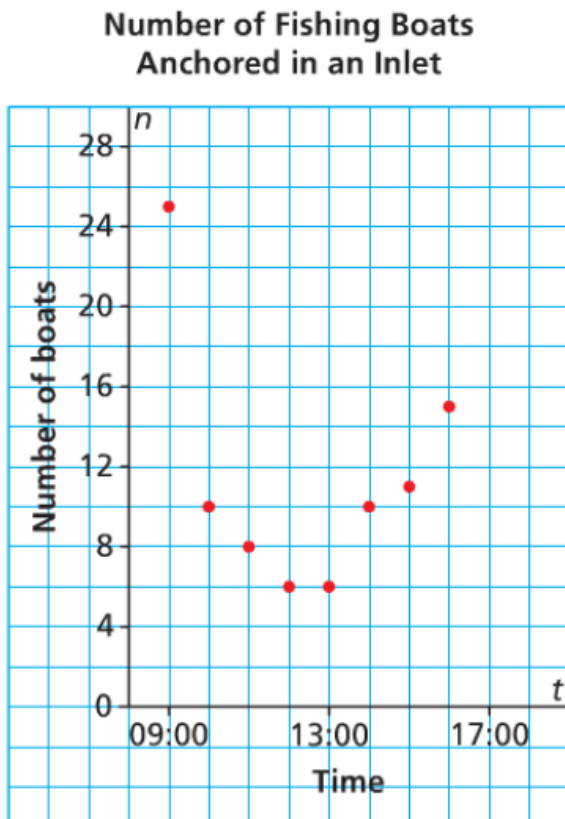
relationship does not form a straight line

**\*\*Definitions can get more complex but at this point.. this is what you should recognize.**



- $R: \{150, 160, 170, 180, 190\}$
- a) State the domain & range.  
 $D: \{7, 7.5, 8, 8.5, 9, 9.5, 10\}$
- b) Is this relation a function?  
 Non-function
- c) Why are the points not connected? Explain.

discrete  
 can't have shoe size between 7 & 7.5



$D: \{9 \leq x \leq 17, x \in \mathbb{W}\}$

$R: \{6, 8, 10, 11, 15, 25\}$

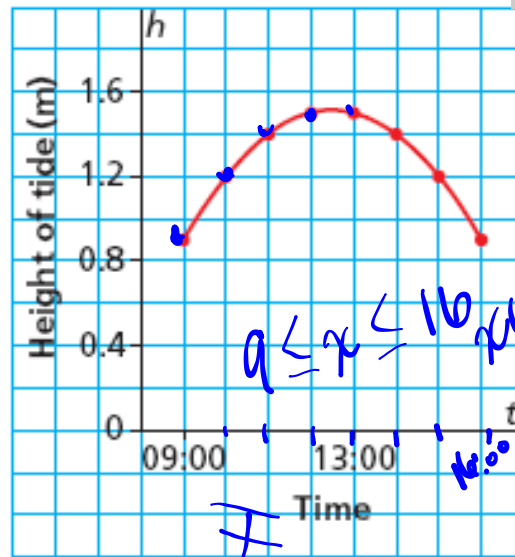
- a) State the domain & range.
- b) Is this relation a function
- c) Why are the points not connected? Explain

discrete  
 won't have 5 of boat

**CHECK YOUR UNDERSTANDING**

3. This graph shows the approximate height as a function of time,  $t$ , at Port Clement on June 17, 2009.
- Identify the dependent variable and the independent variable. Justify your choices.
  - Why are the points on the graph connected? Explain.
  - Determine the domain and range of the graph.

**Height of Tide at Port Clement  
June 17, 2009**



continuous

D

$a \leq x \leq 16$  per

h:0

5.5 Graphs of Relations and Functions

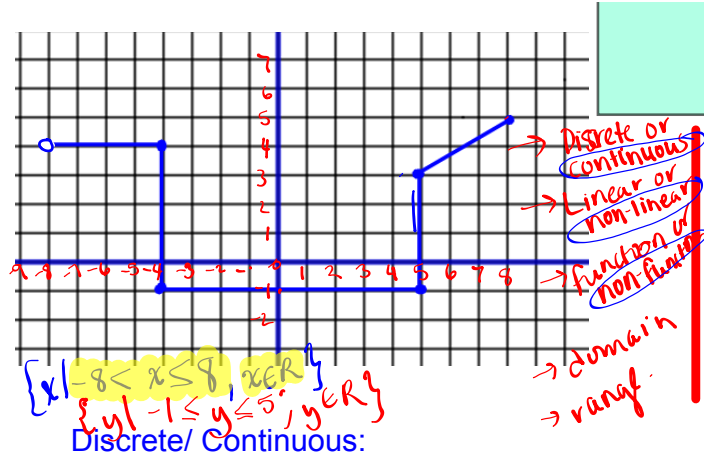
**Discrete vs. Continuous Data**

→ looking for dots  
Discrete data- can only take certain values

Continuous data- can take any value within a certain range

→ Solid line or dots connected.

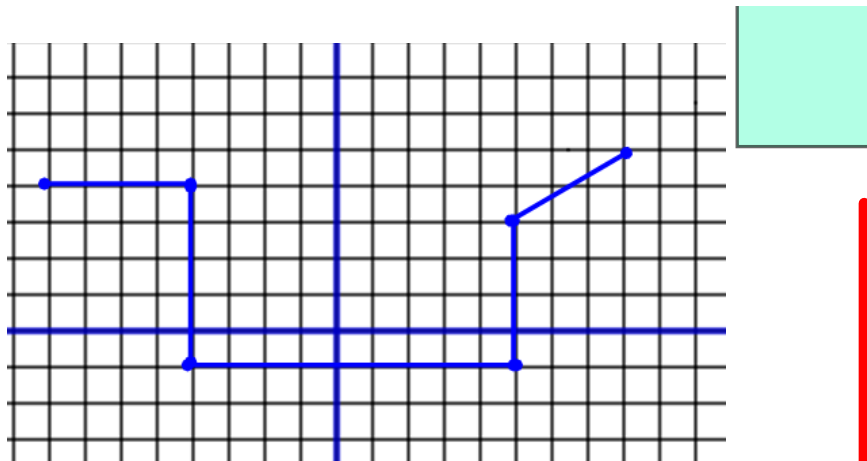




Function/ Non-Functions

Domain:

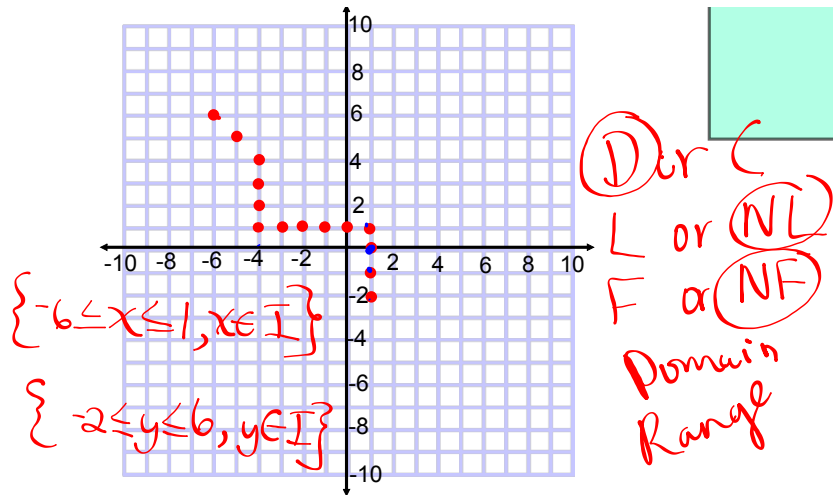
Range:



Discrete/ Continuous:  
 Linear/ Non-linear  
 Function/ Non-Functions

Domain:

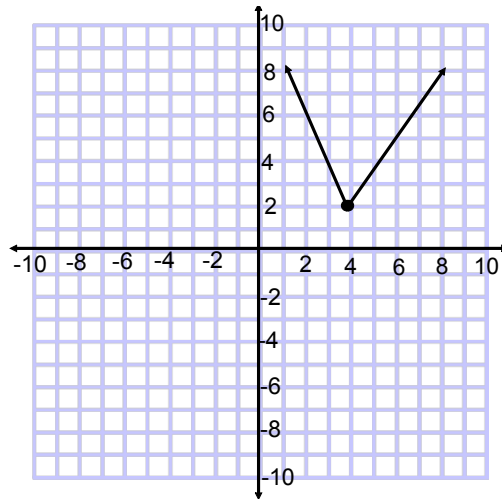
Range:



Discrete/ Continuous:  
 Linear/ Non-linear:  
 Function/ Non-Functions

Domain:  $\overset{-6}{\leftarrow} \overset{1}{\rightarrow}$   
 $-6 \leq x \leq 1$

Range:  $\overset{6}{\uparrow} \overset{-2}{\downarrow}$   
 $-2 \leq y \leq 6$



Discrete/ Continuous:  
 Linear/ Non-linear:  
 Function/ Non-Functions

Domain:

Range:

