

To rent a car for less than one week from Ace Car Rentals, the cost is \$65.00 per day for the first three days, then \$60.00 a day for each additional day.

Independent  
x      dependent  
y

Number of Days Car Is Rented	Total Cost (\$)
1	65
2	130
3	195
4	255
5	315
6	375

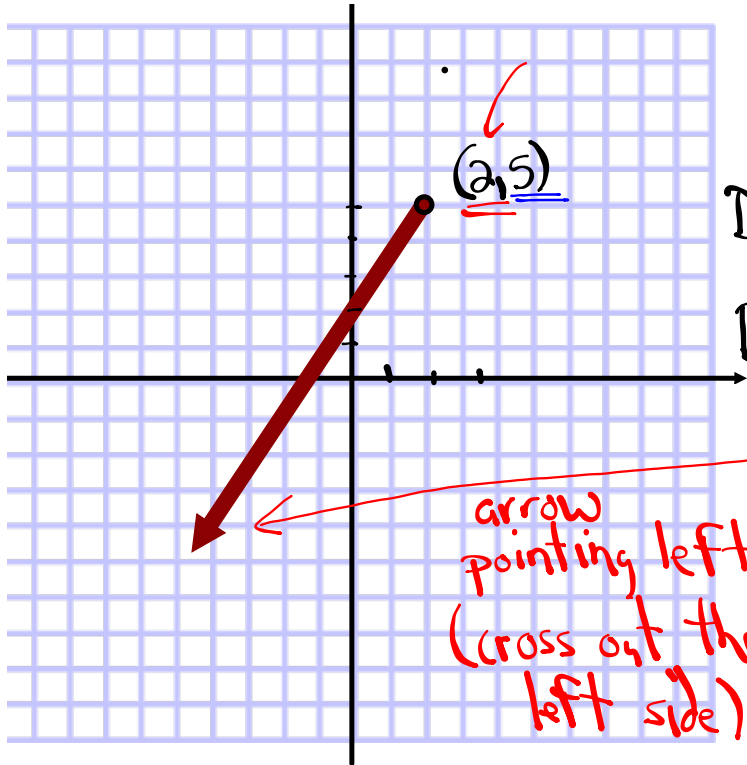
a) State the domain & Range.

D: {1, 2, 3, 4, 5, 6}

R: {65, 130, 195, 255, 315, 375}

b) Is this relation a function?

Function because the x's  
do not repeat.



$$D: \{x \mid \text{small \#} \leq x \leq \text{large \#}\}$$

$$D: \{x \mid -\infty \leq x \leq 2, x \in \mathbb{R}\}$$

$$D: \boxed{\{x \mid x \leq 2, x \in \mathbb{R}\}}$$

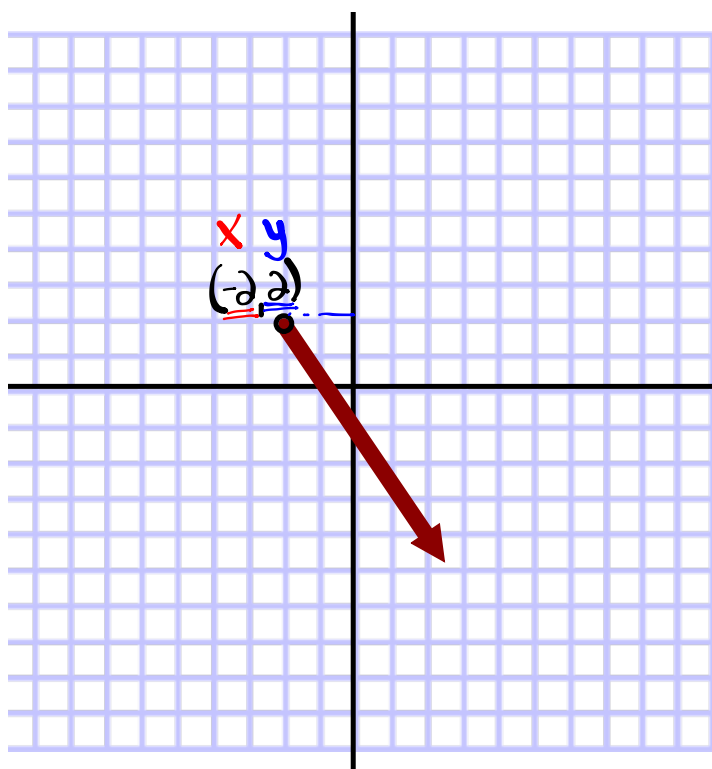
arrow pointing left  
(cross out the left side)

x belongs to the  
Real #'s

$$\therefore R: \{y \mid \text{small \#} \leq y \leq \text{large \#}\}$$

$$R: \{y \mid -\infty \leq y \leq 5\}$$

$$\therefore \boxed{R: \{y \mid y \leq 5, y \in \mathbb{R}\}}$$



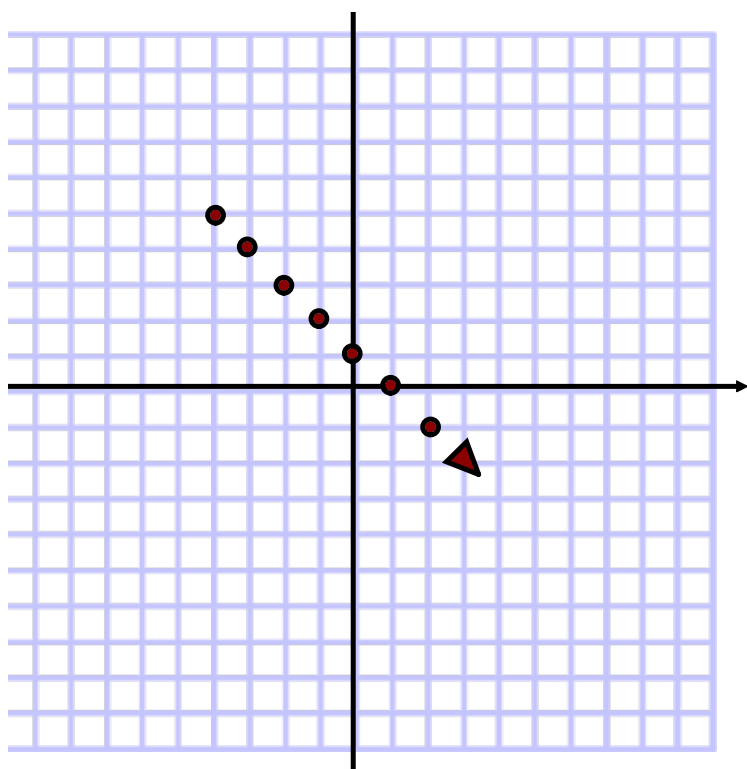
$$D: \{x \mid -2 \leq x \leq \infty, x \in \mathbb{R}\}$$

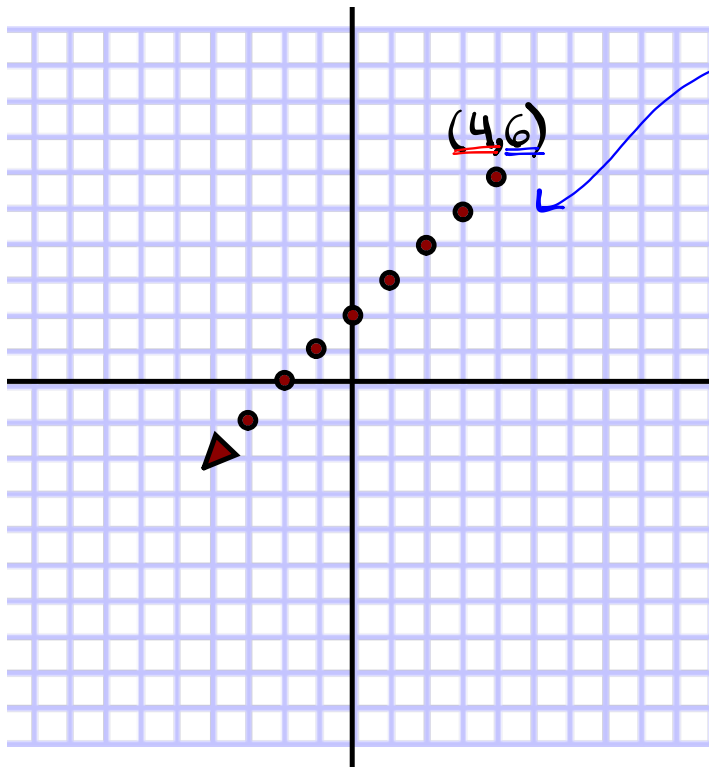
$$D: \{x \mid -2 \leq x, x \in \mathbb{R}\}$$

$$D: \{x \mid x \geq -2, x \in \mathbb{R}\}$$

$$R: \{y \mid -\infty \leq y \leq 2, y \in \mathbb{R}\}$$

$$R: \{y \mid y \leq 2, y \in \mathbb{R}\}$$





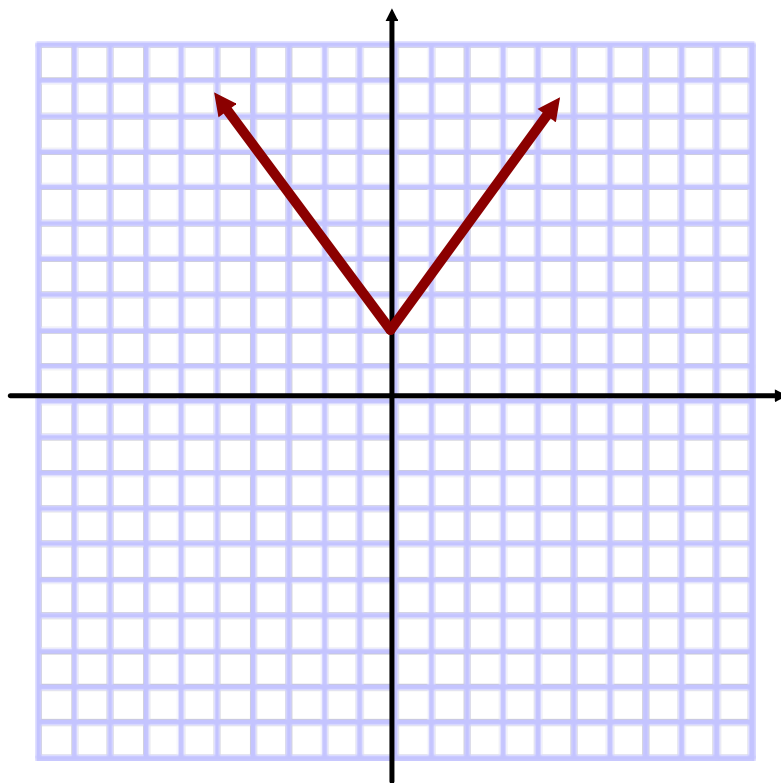
Dots

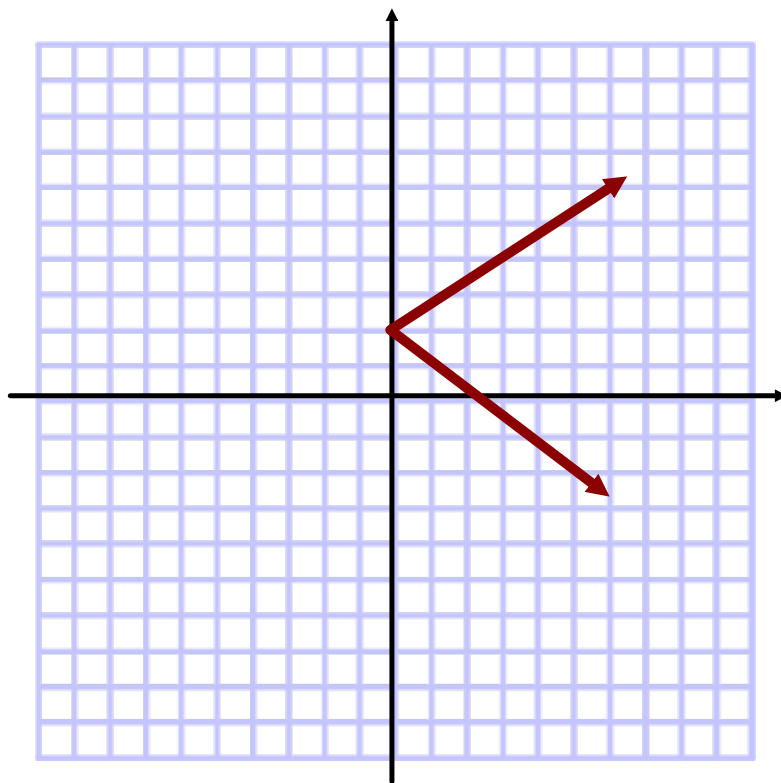
D:  $\{x | \cancel{-\infty} \leq x \leq 4, x \in \mathbb{I}\}$

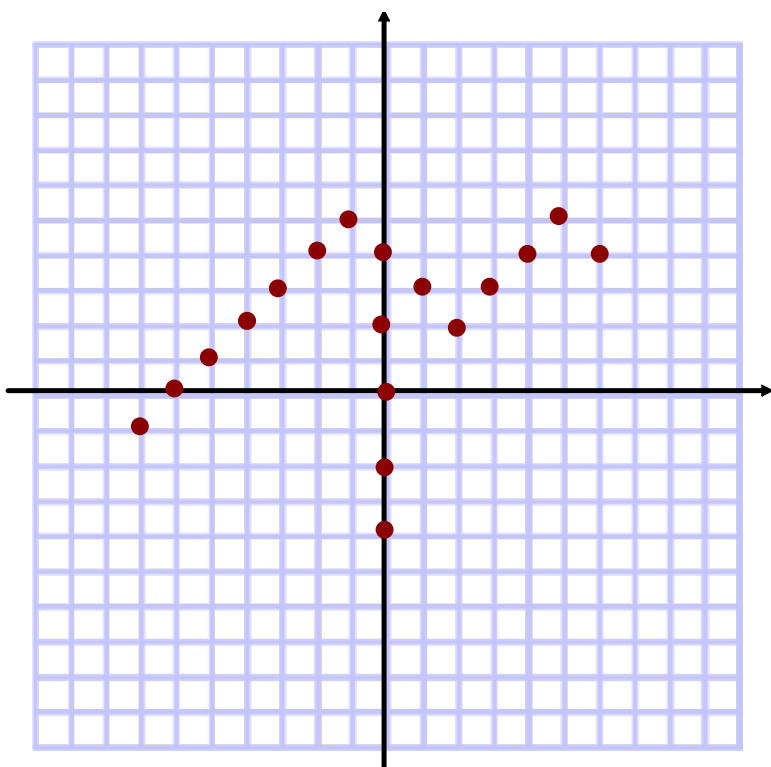
D:  $\{x | x \leq 4, x \in \mathbb{I}\}$

R:  $\{y | \cancel{-\infty} \leq y \leq 6, y \in \mathbb{I}\}$

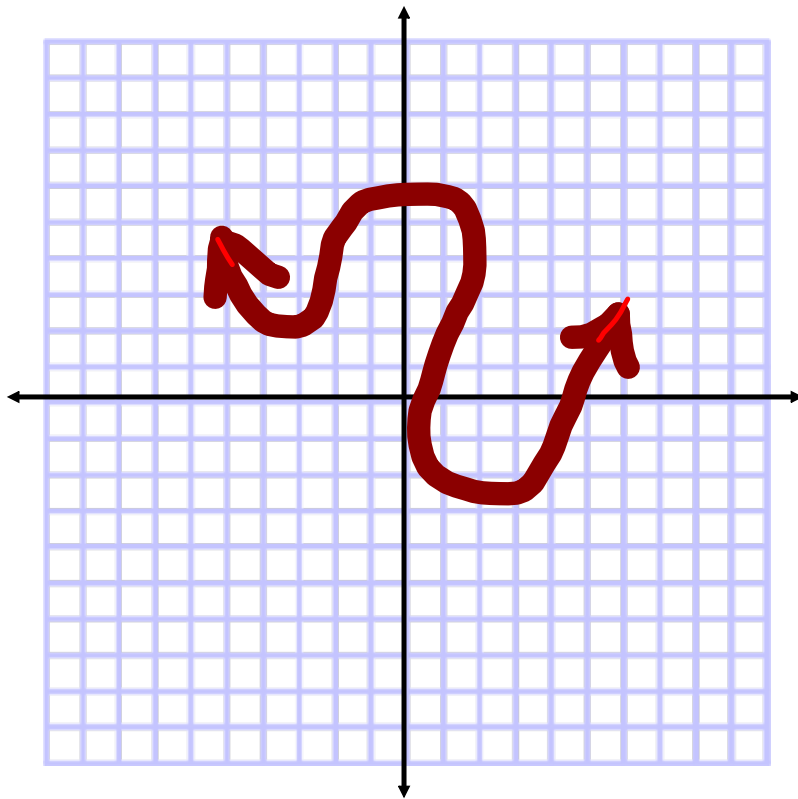
R:  $\{y | y \leq 6, y \in \mathbb{I}\}$

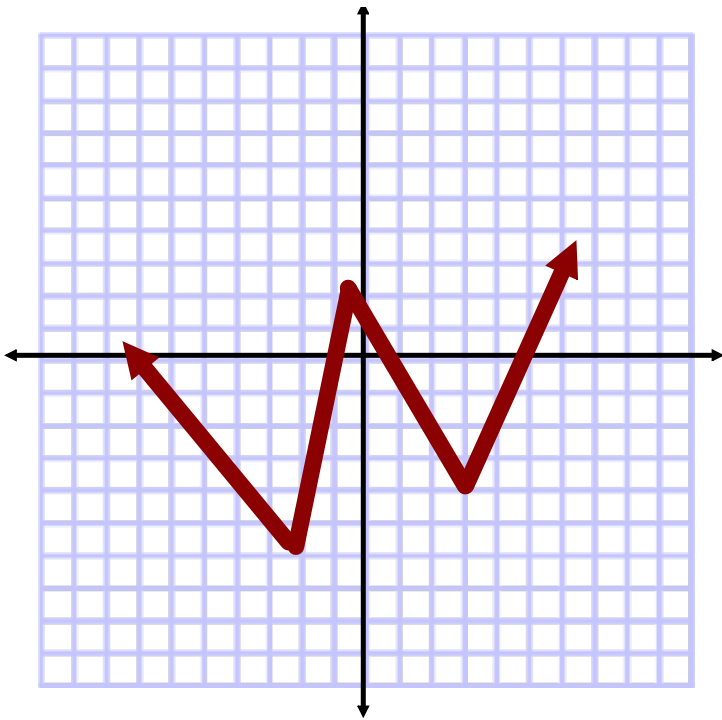










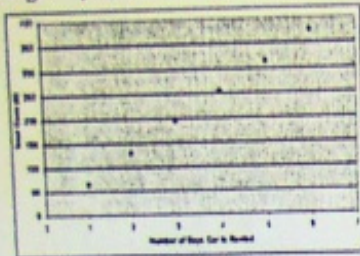


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Take a look at Domain & Range!!

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

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

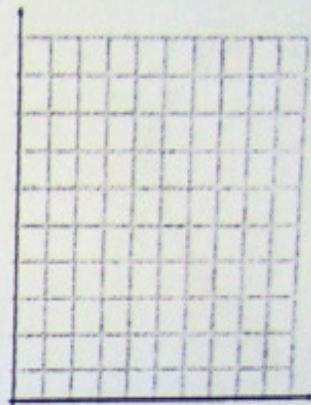


What do you notice?

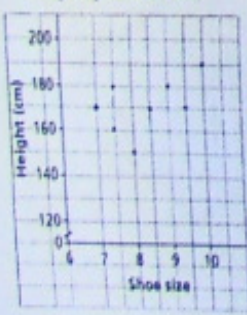
Domain : represents the values of  $x$  (limits on  $x$ )  
 Range: represents the values of  $y$  (limits on  $y$ )

Graph the Following Relation

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

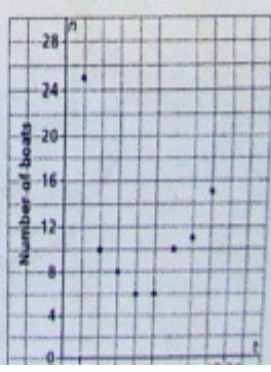


Height against Shoe Size



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

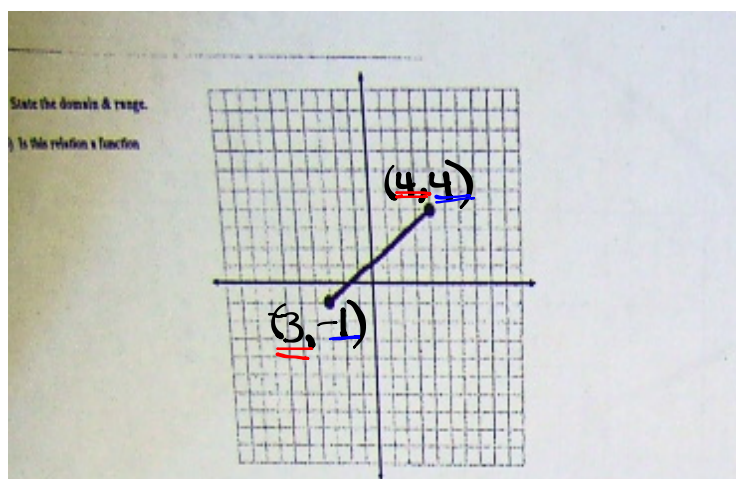
Number of Fishing Boats Anchored in an Inlet



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

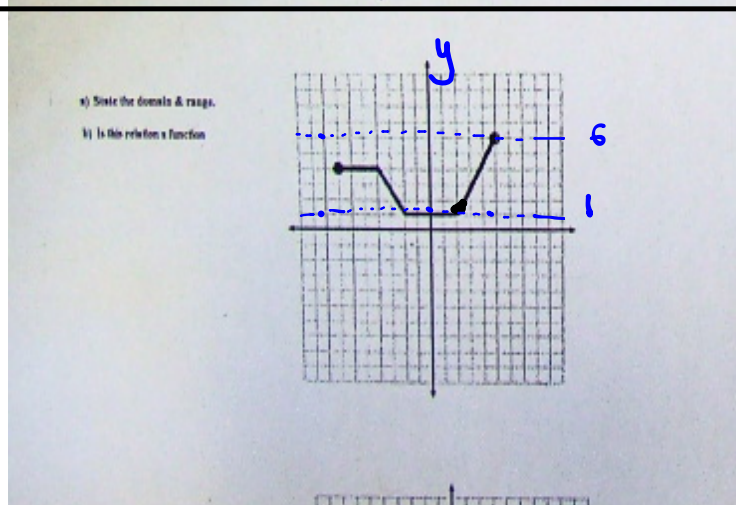
a)  $D: \{x | -3 \leq x \leq 4, x \in \mathbb{R}\}$   
 $R: \{y | -1 \leq y \leq 4, y \in \mathbb{R}\}$

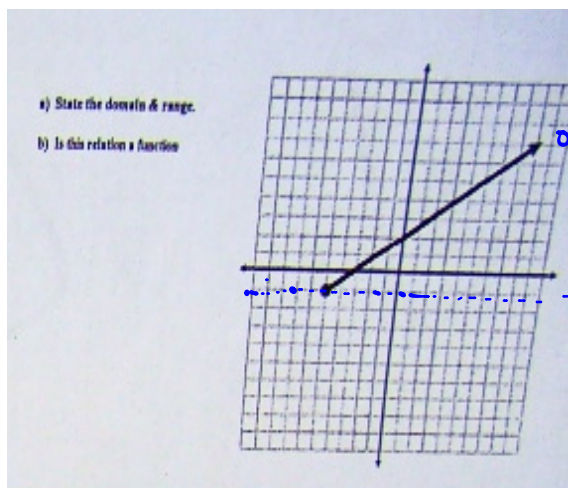
b) **Function**



a)  $D: \{x | -7 \leq x \leq 5, x \in \mathbb{R}\}$   
 $R: \{y | 1 \leq y \leq 6, y \in \mathbb{R}\}$

b) **Function**





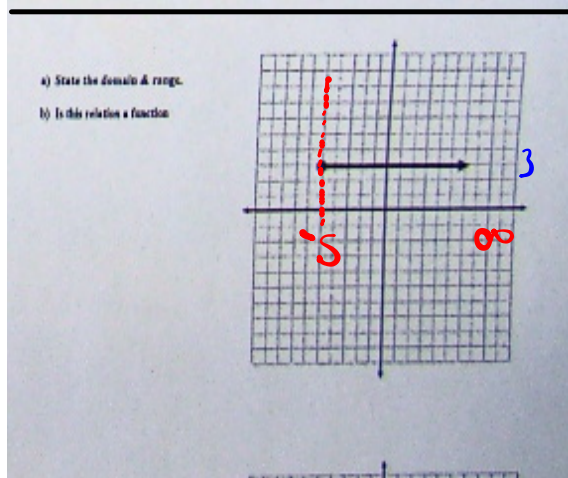
a)  $D: \{x \mid -5 \leq x \leq \infty, x \in \mathbb{R}\}$

$D: \{x \mid x \geq -5, x \in \mathbb{R}\}$

$R: \{y \mid 1 \leq y \leq \infty, y \in \mathbb{R}\}$

$R: \{y \mid y \geq 1, y \in \mathbb{R}\}$

b) **Function**



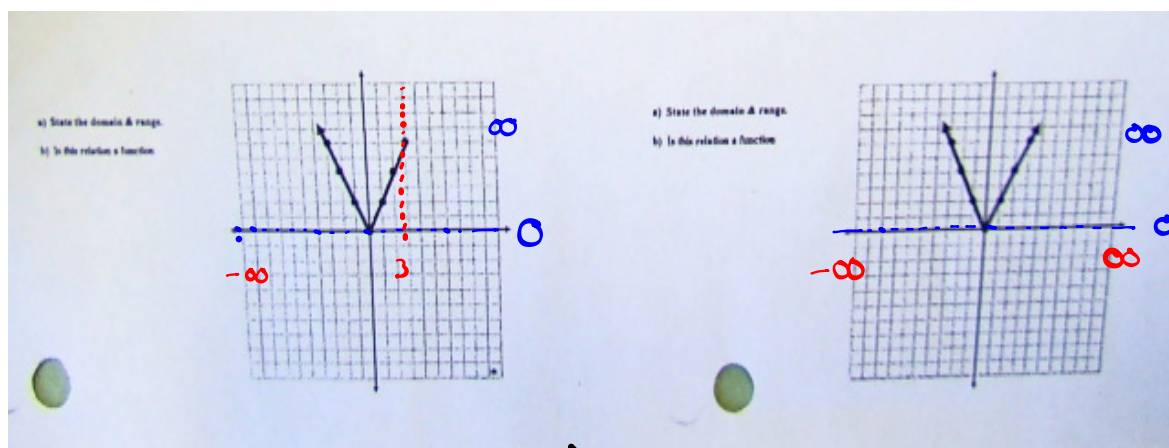
a)  $D: \{x \mid -5 \leq x \leq \infty, x \in \mathbb{R}\}$

$D: \{x \mid x \geq -5, x \in \mathbb{R}\}$

$R: \{y \mid 3 \leq y \leq 3, y \in \mathbb{R}\}$

$R: \{y \mid y = 3, y \in \mathbb{R}\}$

b) **Function**

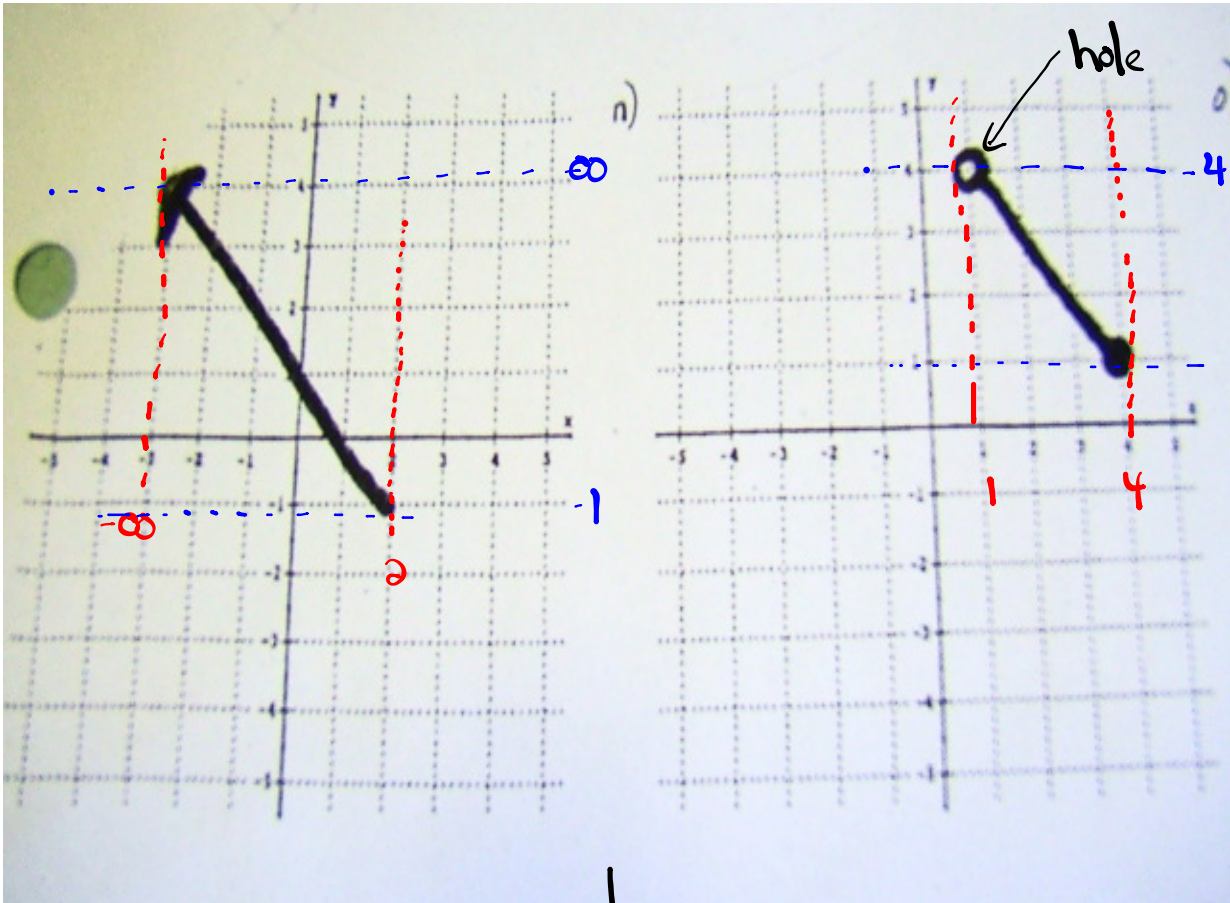


a) D:  $\{x \mid -\infty \leq x \leq 3, x \in \mathbb{R}\}$   
 D:  $\{x \mid x \leq 3, x \in \mathbb{R}\}$   
 R:  $\{y \mid 0 \leq y < \infty, y \in \mathbb{R}\}$   
 R:  $\{y \mid y \geq 0, y \in \mathbb{R}\}$

b) **Function**

a) D:  $\{x \mid -\infty \leq x \leq \infty, x \in \mathbb{R}\}$   
 D:  $\{x \mid x \in \mathbb{R}\}$   
 R:  $\{y \mid 0 \leq y < \infty, y \in \mathbb{R}\}$   
 R:  $\{y \mid y \geq 0, y \in \mathbb{R}\}$

b) **Function**



$$D: \{x | -\infty < x \leq 2, x \in \mathbb{R}\}$$

$$D: \{x | x \leq 2, x \in \mathbb{R}\}$$

$$R: \{y | -1 \leq y < \infty, y \in \mathbb{R}\}$$

$$R: \{y | y \geq -1, y \in \mathbb{R}\}$$

$$D: \{x | 1 < x \leq 4, x \in \mathbb{R}\}$$

$$R: \{y | 1 \leq y < 4, y \in \mathbb{R}\}$$