

### 4.4 Domain and Range Worksheet

1. For each relation :  
 i) Identify the domain and range  
 ii) Determine if it is function

a)  $\{(-1, 4), (2, -3), (3, -3), (1, 6)\}$

Domain:  $\{-1, 1, 2, 3\}$

Range:  $\{-3, 4, 6\}$

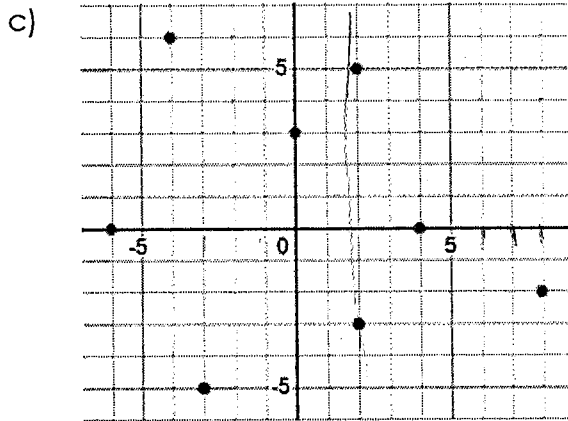
Function: Yes No

b)  $\{(-5, 0), (3, -2), (-3, -6), (-5, 7)\}$

Domain:  $\{-5, -3, 3\}$

Range:  $\{-6, -2, 0, 7\}$

Function: Yes No



Domain:  $\{-6, -3, -2, 0, 2, 4, 7\}$

Range:  $\{-5, -3, -2, 0, 3, 5, 6\}$

Function: Yes No

2. For each relation :  
 i) Identify the domain and range  
 ii) Determine if it is function  
 iii) Identify the independent and dependent variables

Number of juice boxes purchased, $n$	Cost $C$ (\$)
1	2.39
2	4.00
3	6.39
4	8.00
5	10.39
6	12.00

Domain:  $\{1, 2, 3, 4, 5, 6\}$

Range:  $\{2.39, 4.00, 6.39, 8.00, 10.39, 12.00\}$

Function: Yes No

Independent Variable: # of boxes  $n$

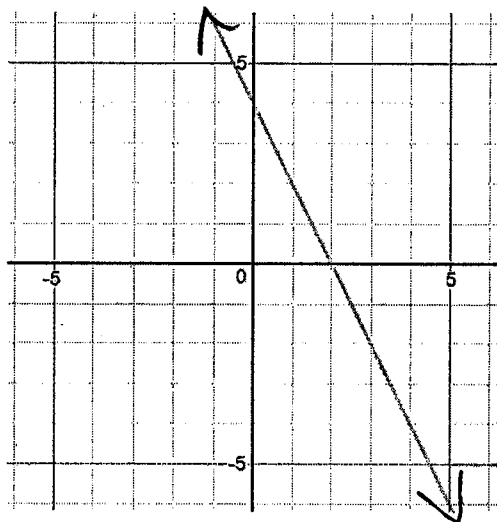
Dependent Variable: Cost  $C$

3. For each relation :

i) Identify the domain and range

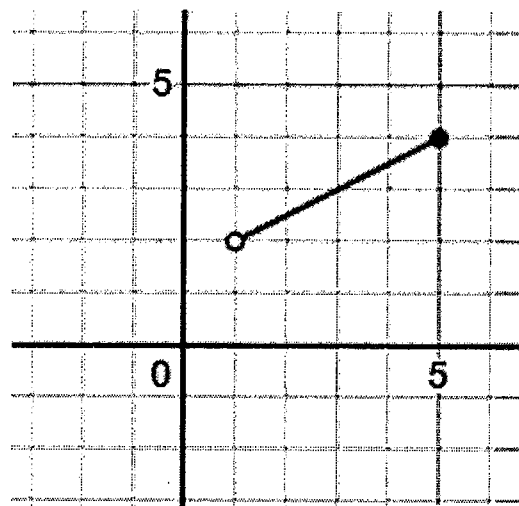
ii) Determine if it is function

a)



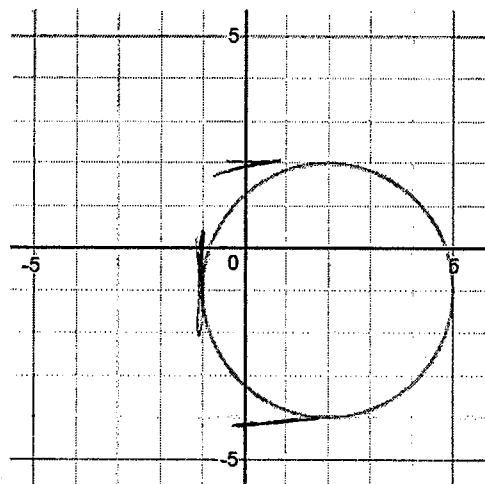
Domain:  $x \in \mathbb{R}$        $(-\infty, \infty)$   
 Range:  $y \in \mathbb{R}$        $(-\infty, \infty)$   
 Function: Yes      No

b)



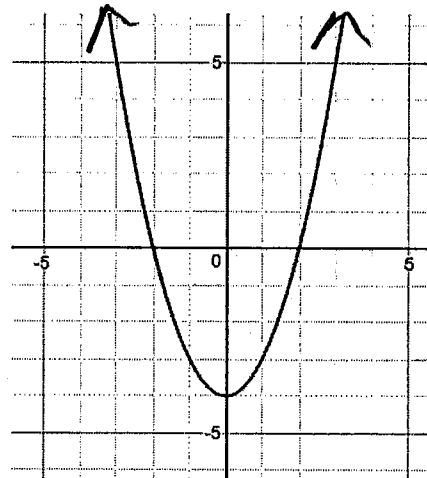
Domain:  $1 < x \leq 5$        $(1, 5]$   
 Range:  $2 < y \leq 4$        $(2, 4]$   
 Function: Yes      No

c)



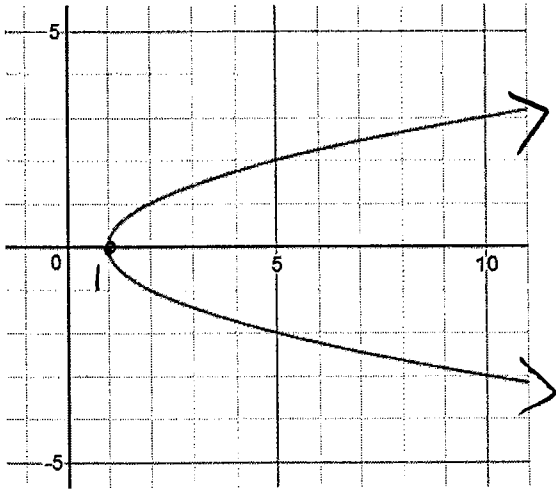
Domain:  $-1 \leq x \leq 5$        $[-1, 5]$   
 Range:  $-4 \leq y \leq 2$        $[-4, 2]$   
 Function: Yes      No

d)



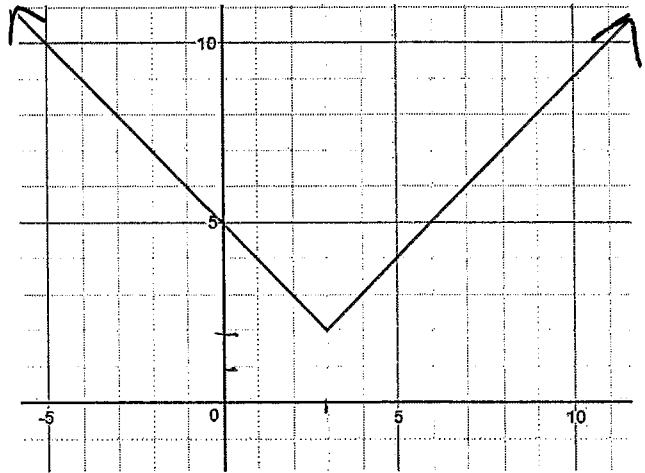
Domain:  $x \in \mathbb{R}$        $(-\infty, \infty)$   
 Range:  $y \geq -4$        $[-4, \infty)$   
 Function: Yes      No

e)



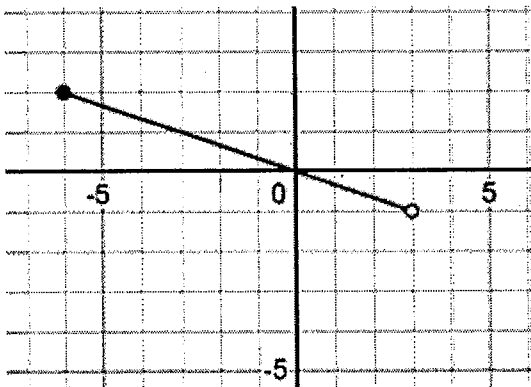
	Set Notation	Interval Notation
Domain:	$x \geq 1$	$[1, \infty)$
Range:	$y \in \mathbb{R}$	$(-\infty, \infty)$
Function:	Yes	No

f)



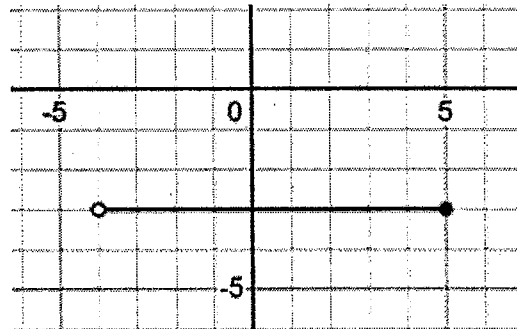
	Set Notation	Interval Notation
Domain:	$x \in \mathbb{R}$	$(-\infty, \infty)$
Range:	$y \geq -2$	$[-2, \infty)$
Function:	Yes	No

g)



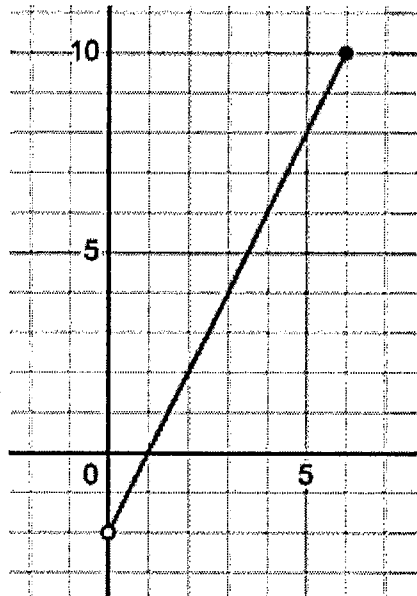
	Set Notation	Interval Notation
Domain:	$-6 \leq x < 3$	$[-6, 3)$
Range:	$-1 < y \leq 2$	$(-1, 2]$
Function:	Yes	No

h)



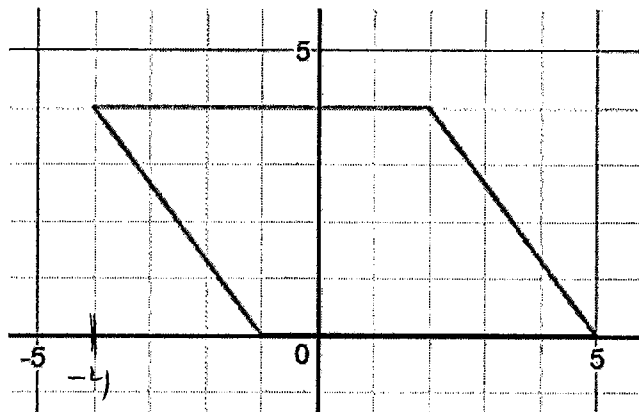
	Set Notation	Interval Notation
Domain:	$-4 < x \leq 5$	$(-4, 5]$
Range:	$y = -3$	
Function:	Yes	No

i)



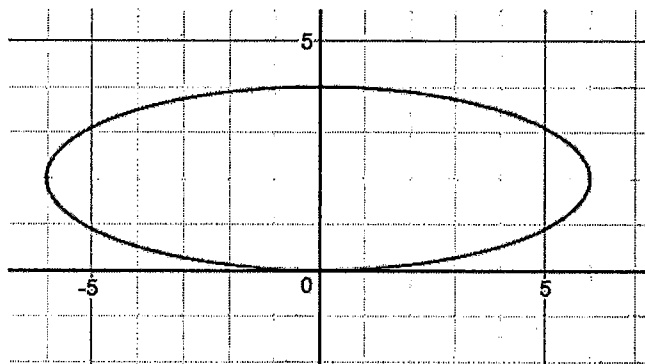
	Set Notation	Interval Notation
Domain:	$0 < x \leq 6$	$(0, 6]$
Range:	$-2 < y \leq 10$	$(-2, 10]$
Function:	Yes	No

j)



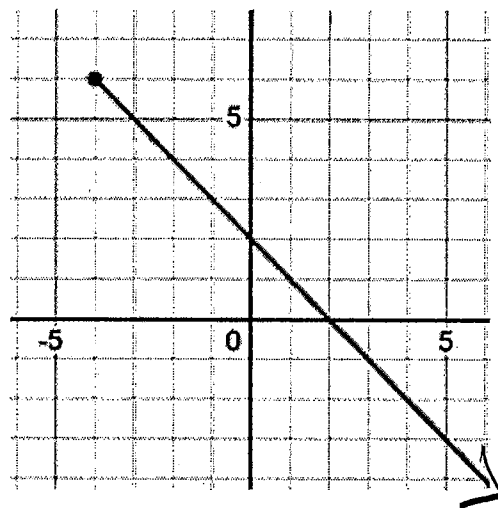
	Set Notation	Interval Notation
Domain:	$-4 \leq x \leq 5$	$[-4, 5]$
Range:	$0 \leq y \leq 4$	$[0, 4]$
Function:	Yes	No

k)



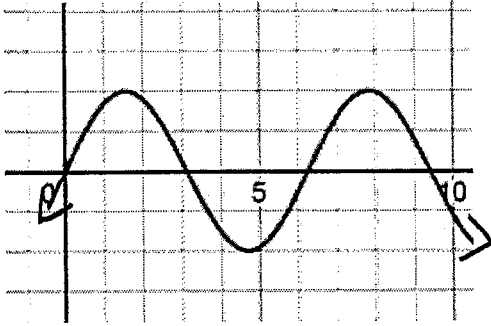
	Set Notation	Interval Notation
Domain:	$-6 \leq x \leq 6$	$[-6, 6]$
Range:	$0 \leq y \leq 4$	$[0, 4]$
Function:	Yes	No

l)



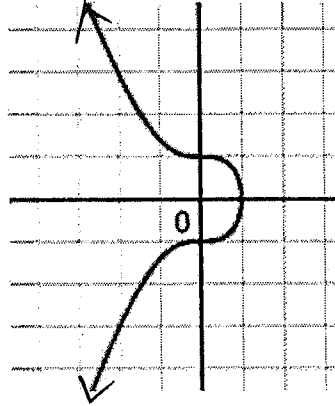
	Set Notation	Interval Notation
Domain:	$x > -4$	$(-4, \infty)$
Range:	$y \leq 6$	$(-\infty, 6]$
Function:	Yes	No

m)



Domain:  $x \in \mathbb{R}$        $(-\infty, \infty)$   
 Range:  $-2 \leq y \leq 2$        $[-2, 2]$   
 Function: Yes      No

n)



Domain:  $x \leq 1$        $(-\infty, 1]$   
 Range:  $y \in \mathbb{R}$        $(-\infty, \infty)$   
 Function: Yes      No