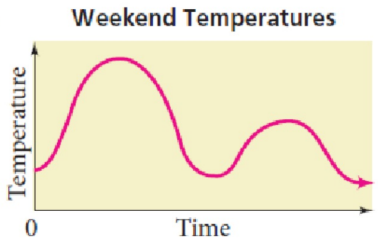
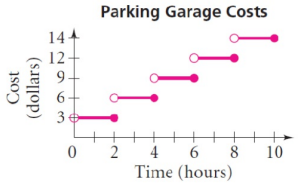
1. Describe what is happening in each section of the graph below.



2. Use the graph below to answer the following questions.



a. How much does it cost to park for 8 hours?

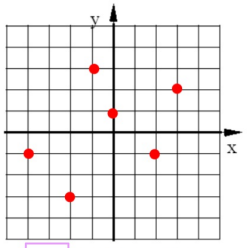
b. How much does it cost to park for 481 minutes?

c. If you paid $6 for parking how long could your car have been parked in the garage?

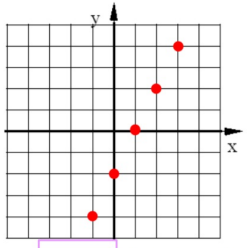
Sec 5-2: Relations and Functions

1. What is a Relation?

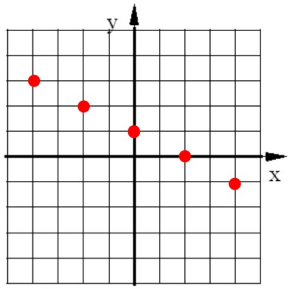
These are both Relations.



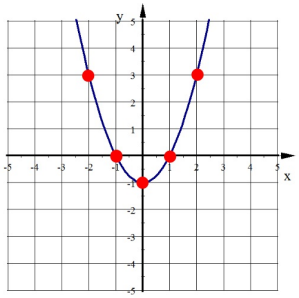
relationship



Relationship



Relationship



Relationship

2. What is the Domain of a Relation?

3. What is the Range of a Relation?

Other names for Domain and Range

Domain

Range

$(4,-1),(2,3),(4,-5),(-2,6),(1,3)$

4. State the Domain and Range of this Relation:

Domain: Range:

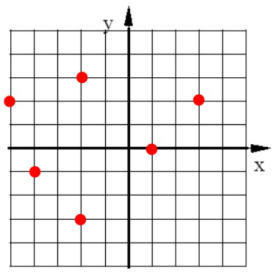
5. State the domain and range of this relation.

(6,-1),(2,-5),(-1,7),(9,-4),(1,3)

Domain:

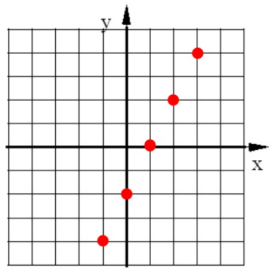
Range

State the Domain and Range or each Relation



Domain:

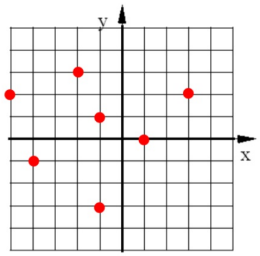
Range:

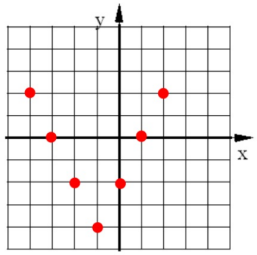


Domain:

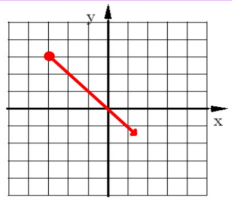
Range:

These are called Discrete Graphs.



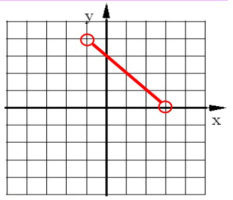


These are called Continuous Graphs.



Domain:

Range:



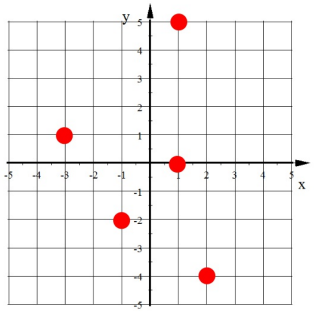
Domain:

Range:

6. What is a Function?

Some Relations are called Functions.

Is this relation a function?



x	y

Is this relation a function?

(6,7) (-4,3) (1, -5) (6,2)

Is this relation a function?

(4,0) (2,1) (-8,1) (9,5)

Using a Mapping Diagram to tell if a relation is a function.

(5,1), (-2, 7), (2, -3), (8, -1), (2, 4), (-6, 8)

Domain: Range:

If any domain value has more than one line coming from it then the relation is NOT a function

Is the following relation a function?

(-4, 7), (3, -9), (-8, 2), (5, 7), (2, 4)

Is the following relation a function?

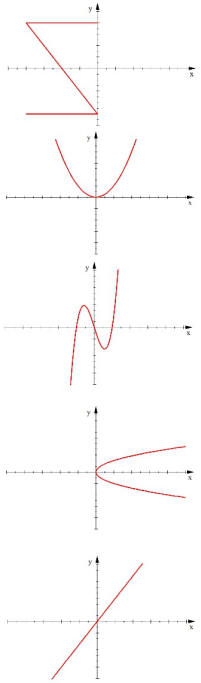
x	y
8	4
1	−9
−3	2
5	4

Is the following relation a function?

x	y
−9	1
4	0
−2	−7
4	8

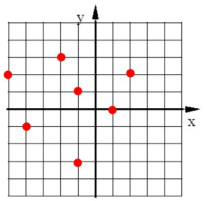
7. How can you tell if a graph represents a function?

Is a Function



Is NOT a Function

Vertical Line Test:

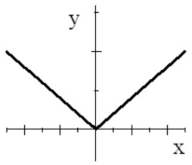


8. Is each of these relations a function?

a)

X	Y
-2	4
3	1
7	-6
4	1

b)



How do you say $f(x)$?

" f of x"

f is the function name

X is the Independent variable (the input)

f(x) doesn't mean

What is another way to write $f(x) = 7x - 8$?

If $f(x) = -2x + 3$ what does $f(5)$ mean?

Find $f(5)$.

9. If $f(x) = x^2 + 3x$

find the range for this given domain: $Domain : \{-4, 0, 2\}$

Given the functions: g(x) = -10x - 1

and k(r) = $-2x^2$ +5

1. Find g(5)

2. Find k(-3)

3. Find x if g(x) = 29

4. Find 2g(1) + 3k(2)