Warm-up 8/13/15

1) Factor $x^2 + 5x + 6$

2) Factor $x^2 - 49$

3) Solve $x^2 + 6x - 5x^2 - 2x + 7 =$

4) Foil: $(x + 3)(-x - 2)$

Relations and Functions
1.1

For an ordered pair (2, 0)

The first element of an ordered pair (2) is known as the **abscissa.**

The second element of an ordered pair (0) is known as the **ordinate.**

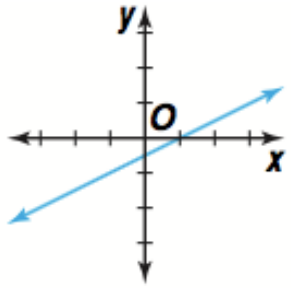
The set of abscissa is called the **domain**.
The set of ordinate is called the **range**.

We do:
1) What is the abscissa and ordinate of (-2, 5)?
Abscissa:-2
Ordinate: 5

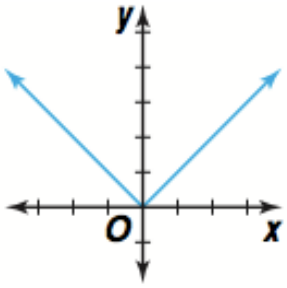
2) What is the domain and range of
{ (-1,5), (0,2), (-2, 4)}?
Domain:{-1,0,-2}
Range: {5,2,4}

State the domain and range of each relation.

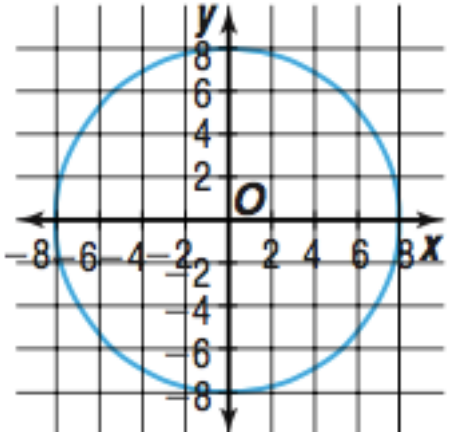
a.



b.



You do:
What is the Domain and Range of the relation?



A **function** is a relation in which each element of the domain is paired with exactly one element in the range.

{ (-1,5), (0,2), (-2, 4)} is a function because the elements of the domain (-1, 0, -2) all appear only once.

I do:

1) Is this a function?

{(1,2) , (3,0), (5,1)}

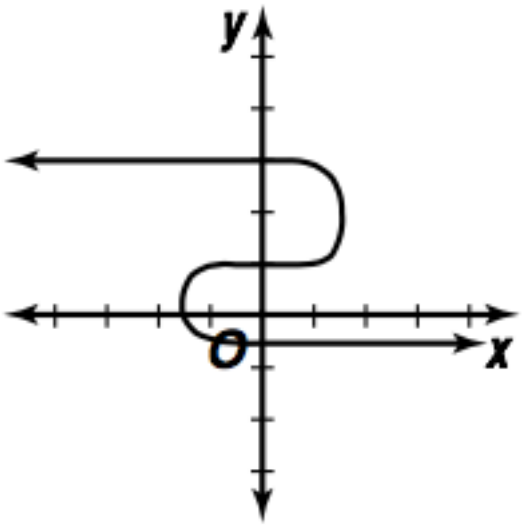
Why or why not?

2) Is this a function?

{(2, 2) , (5,1), (2,6)}

Why or why not?

3)



We Do:

1) Give an example of a set of ordered pairs that is not a function.

2) Draw a graph that is not a function

You Do:

Is this a function? Why or why not?

Los Angeles Lakers

Height (in.)	Weight (lb)
83	240
81	220
82	245
78	200
83	255
73	200
80	215
77	210
78	190
73	180
86	300
77	220
82	260

Evaluate each function for the given value.

1) f(-4) if f(x)=$3x^3 - 7x^2 - 2x$

Given	f(x)=$3x^3 - 7x^2 - 2x$
Plug in -4 for x	$3(-4)^3 - 7(-4)^2 - 2(-4)$
Simplify	$3(-64) - 7(16) + 8$ $-192 - 112 + 8$ -296

2) g(9) if g(x)=|6x-77|
What does | | do?

Given	g(x)=|6x-77|
Plug in 9 for x	g(x) = |6(9)-77|
Simplify	|54-77| |-23|
Make value in		positive	23

3) j(c-5) if j(x) = $x^2 - 7x + 4$

Given	j(x) = $x^2 - 7x + 4$
Plug in (c-5) for x	$(c-5)^2 - 7(c-5) + 4$
Simplify	$(c^2 - 10c + 25) - 7c + 35 + 4$
Combine like terms	$c^2 - 17c + 64$

We try:

1) f(-3) if f(x)=$x^3 + 2x^2 - x$

Given	
Plug in for x	
Simplify	

2) g(3) if g(x)=|$2x^2$-17x|

Given	
Plug in for x	
Simplify	
Make value in | | positive	

3) j(c-1) if j(x) = $2x^2 - x + 1$

Given	
Plug in (c-1) for x	
Simplify	
Combine like terms	

State the domain of each function.
What causes functions to be undefined.

I do

1) $f(x) = \frac{5}{x+2}$

2) $g(x) = \sqrt{x+3}$

3) $z(x) = \frac{2x}{x^2+3x+2}$

We do:

1) $f(x) = \frac{5-x}{x^2-4}$

2) $g(x) = \sqrt{x^2 - 5}$

You do with your partner:

1) $\frac{3x}{x^2-5}$

2) $\frac{5+x}{\sqrt{x^2-9}}$