GO COUGARS!

# WARM UP - No Calculator

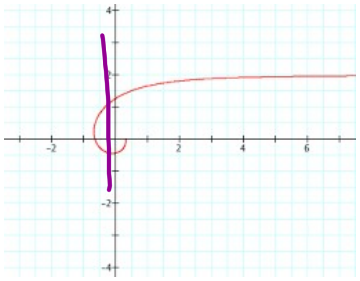
1) Given f(x) = $x^2$ - 5, find the value of f(-3), f(1/2), and f(5).

$f(-3) = (-3)^2 - 5 = 4$ $f(\frac{1}{2}) = (\frac{1}{2})^2 - 5 = \frac{1}{4} - \frac{20}{4} = -\frac{19}{4}$ $f(5) = 20$

2) What's another name for the domain and range of a function?

x's independent y's dependent

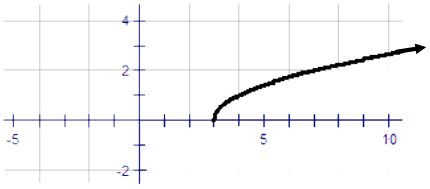
3) Is the graph a function? yes or no?



NO

4) State the domain and range of the graph below.

D: $x \geq 3$ R: $y \geq 0$



Feb 2-9:51 PM

## Homework Questions?

pg. 50

3) 29

8) 2a - 4b

12) 8/3

13) 5

16) $x = \frac{2a}{a-b}$

18) $x = a(b-1)+5$

21) $138

25) t > 1/2

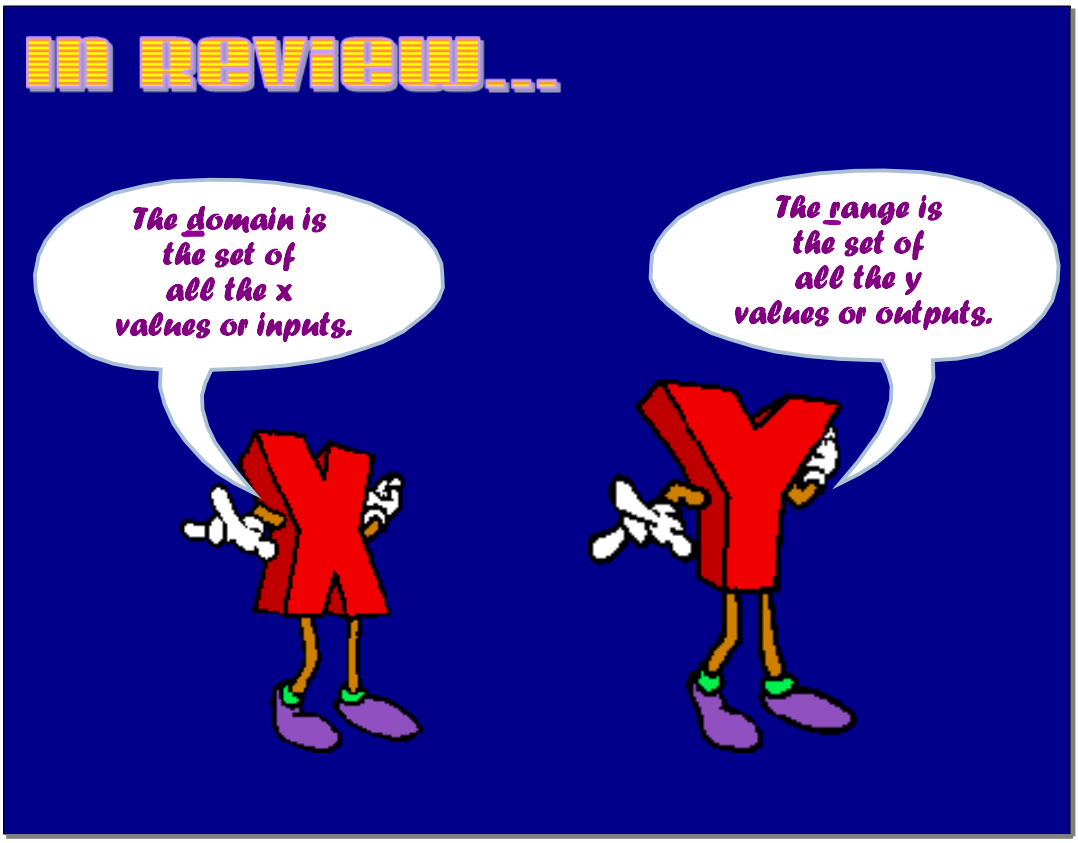
27) 1 < d < 2

Aug 18-7:02 AM

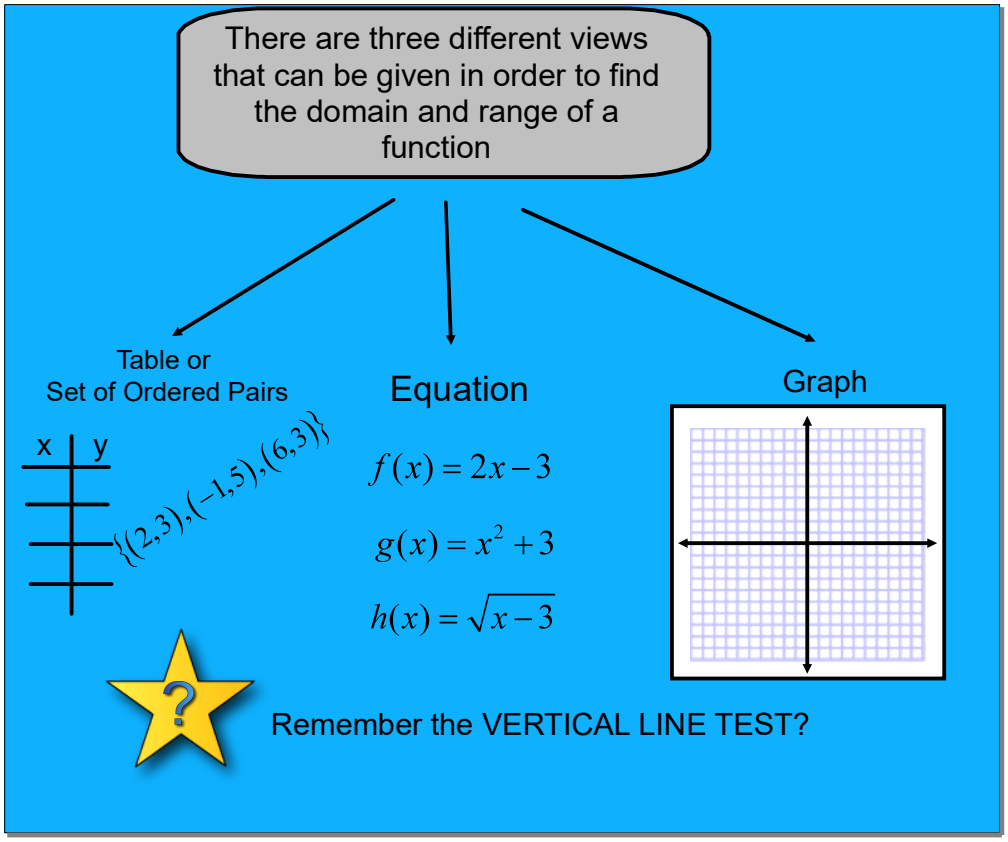
2.1 Relations and Functions
Objective: to identify domain and range, if a
set of ordered pairs or a graph is a function, and evaluate functions at a given point

*Note Catcher - WB pg 5*

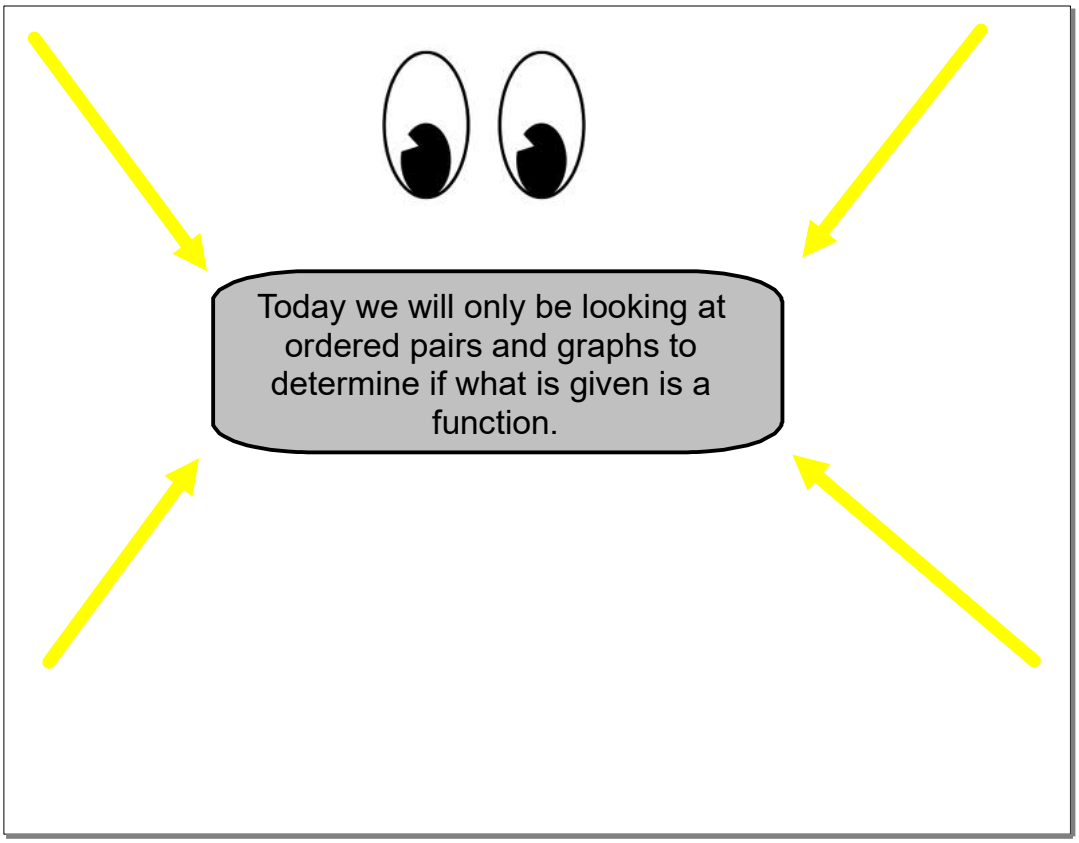
Feb 2-9:41 PM




Feb 13 - 9:00 AM




Feb 2-10:05 PM

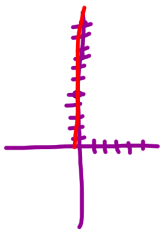



Aug 16-10:00 PM

To determine if a set of ordered pairs is a function -

| x | y |
|---|---|
| -5 | -12 |
| 3 | -8 |
| 0 | 5 |
| 1 | 6 |
| 0 | 11 |

NO



| x | y |
|---|---|
| -4 | 8 |
| 2 | 7 |
| 0 | 6 |
| 2 | 5 |
| 6 | 4 |

NO

Function - set of ordered pairs where each element of the domain is paired with exactly one element of the range

To find the domain of a set of ordered pairs -

$\{-5, 3, 0, 1\}$ $\{-4, 2, 0, 6\}$

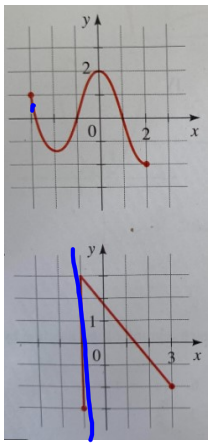
To find the range of a set of ordered pairs -

$\{-12, -8, 5, 6, 11\}$ $\{8, 7, 6, 5, 4\}$

Feb 2-10:28 PM

To determine if a graph is a function -

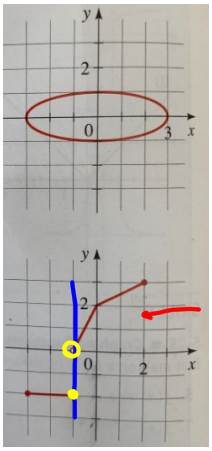
Y



N



N



Y

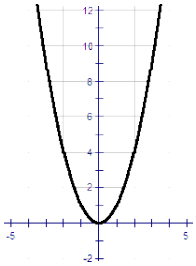


D (-1, 2]

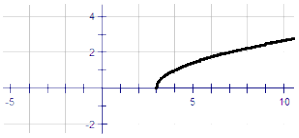
Pull

Feb 2-10:28 PM

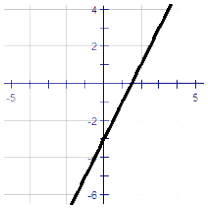
etermine whether each graph is a function. Then find the domain and range.
et's use interval notation.



Function: Yes
Domain: $(-\infty, \infty)$
Range: $[0, \infty)$



Function: Yes
Domain: $[3, \infty)$
Range: $[0, \infty)$



Function: Yes
Domain: $(-\infty, \infty)$
Range: $(-\infty, \infty)$

Feb 2-10:24 PM

## Evaluating a function at a point.

For each function, find the value of f(-4), f(1/2) and f(5).

$f(x) = -3x - 7$

$f(-4) = 3(-4) - 7$
$= -12 - 7$
$= -19$

$f(x) = 8 - x^2$

$f(x) = 1/2x + 3$

Pull

Feb 2-10:28 PM

## 2.1 Relations and Function Notes

**Relation** – a set of ordered pairs: for example {(4, 6), (-2, 100) (-7, -10)}

**Function** – a relation where there is exactly one y value for every x value (one output for every input)

**Domain** – the set of x values (input)

**Range** – the set of y values (output)

Functions come in many forms:

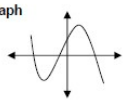
**Table**

| x | y |
|---|---|
| 1 | 3 |
| -3 | 4 |
| -1 | -6 |

**Ordered pairs**

{(4, 6), (-2, 100) (-7, -10)}

**Graph**

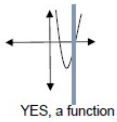


To determine if a relation is a function when represented as (a)…

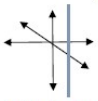
table: If the x values DO NOT REPEAT, the relation **is** a function

ordered pairs: If the x values DO NOT REPEAT, the relation **is** a function

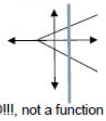
graph: VERTICAL LINE TEST – a vertical line through the graph may cross it only once



YES, a function



YES, a function



NO!!!, not a function

**Standard Notation** $y = 2x - 7$

**Function Notation** $f(x) = 2x - 7$ Say this 'f of x equals 2x - 7'

to find a function value 'f of 5' written $f(5) = 2(5) - 7$ Put 5 in for all the x's

$= 10 - 7$ Simplify

$= 3$

You are responsible for this information. If you need to practice this you may work the following problems. This is optional and will not be checked for a homework grade.

page 59 #5-11 odd (find domain and range only, do not map), 13-29 odd, 38, 39, 43-45

Aug 24-2:05 PM

GO COUGARS!

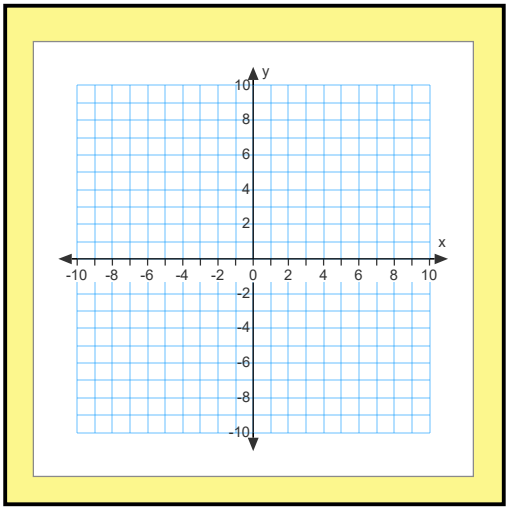
Homework 2.1 - No Calculator
p. 59 #7-11 odd (find domain/range only!)
and
#13-23 odd, 26, 29, 38, 39, 43-45

Feb 2-10:45 PM

# EXTRA SLIDES

Aug 15-9:03 AM

Draw a graph which is not a function. Then explain why it is not a function.




Feb 2-9:51 PM


Aug 14-5:38 PM