Agenda 12/06/18

Check your MAILBOXES

1. Bellwork/Writing:
   a. $3(x + 7) \geq -20$
   b. Evaluate: 3x - 4 when x = 5
2. Lesson: Domain and Range
3. Guided / Independent Practice
4. Homework

$3x + 21 \geq -20$
$-21 \quad -21$
$\frac{3x}{3} \geq \frac{-41}{3}$
$x \geq -13.66$

$3(5) - 4$
11

Oct 8-7:35 AM

Domain	Range	Relation
x-values	y-values	ordered pairs (x,y)
input	output	table
Independent variable	Dependent variable	mapping
		graph

Sep 7-8:38 AM

Lesson: Domain and Range

Vocabulary

relation
domain
range
function

Domain: is the set of first coordinates (or x-values) of the ordered pairs.

Range: is the set of second coordinates (or y-values) of the ordered pairs

Relation: is the set of ordered pairs

function → f(x) or y =

Sep 7-8:40 AM

Example 1

> Find the range, when the domain is 7. $x = 7$

f(x) = x + 5 or y = x + 5

$f(7) = 7 + 5 = 12$

$R: \{12\}$

$y = 7 + 5 = 12$

$R: \{12\}$

Example 2:

> Find the range, when the domain is 10.

$\{37\}$

f(x) = 4x - 3

$f(10) = 4(10) - 3$
$= 40 - 3$
$= 37$

$R: \{37\}$

Example 3:

> Find the range, when the domain is ~~-4, 10~~, 2.

y = -3x - 6

$x = -4$: $y = -3x - 6 = -3(-4) - 6 = 6$

$x = 10$: $y = -3x - 6 = -3(10) - 6 = -36$

$x = 2$: $y = -3x - 6 = -3(2) - 6 = -12$

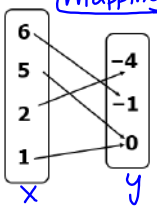
$R: \{-36, -12, 6\}$

Nov 14-11:22 AM

Example 4

Give the domain and range of the relation.

Mapping



D: {1, 2, 5, 6}
R: {-4, -1, 0}

Example 5

> Find the Domain and Range.

x	2	4	6
y	-3	-6	-9

D: {2, 4, 6}
R: {-9, -6, -3}

Sep 7-8:39 AM

#6 Ordered pairs

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

ordered pairs (x, y)

* Do not write a number more than one time.

x → -2, -1, -1, 3
D: {-2, -1, 3}

y → -2, 1, 1, 5
R: {-2, 1, 5}

Nov 14-2:47 PM

Example 7

> Find the Domain and Range

x	y
0	-1
2	-1
3	-1
7	-1

D: {0, 2, 3, 7}
R: {-1}

Example 7

> Find the Domain and Range

(4,5) , (9,2) , (0,-3)

Nov 14-11:28 AM

1. D: {-9, -7, -2, 0, 3, 9, 11}
   R: {-13, 0, 4, 6, 10, 12}
2. D: {-16, -6, 2, 8, 10}
   R: {-7, 3, 5, 7, 11, 15}
3. D: {-16, -4, 6, 10, 15}
   R: {-8, -7, -5, 9, 19}
4. D: {-12, -6, 0, 5, 7, 8, 9}
   R: {-9, -4, -3, 2, 3, 4, 9}
5. D: {-13, -10, -8, 12, 16, 18}
   R: {-9, -2, 2, 3, 7, 8}
6. D: {-18, -16, -10, -8, 3, 7}
   R: {11}
7. R: {-23, -3, 15, 23, 29, 39}
8. R: {-43, -41, -38, -36, -34}

Nov 13-9:25 AM

Homework : Find the Domain & Range

① $\{(3,4), (5,1), (2,1)\}$

②

x	y
0	4
1	5
2	-5

③ Find the domain given $f(x) = -4x - 6$ when the range is $\{0,1,3\}$.

④ Find the domain given $f(x) = x + 5$ when $\{-1,3,4\}$

Nov 14-1:34 PM

Agenda 11/13/19

BOOKBAGS in designated area and complete BELLWORK paper
Check your MAILBOX
Write your OBJECTIVE

Objective: I can find the domain and range of functions.

1. Bellwork/Writing:

The formula shown can be used to find A, the amount of money Raul has in his savings account.

$A = P + Prt$

$-P \quad -P$

Raul wants to find r, the rate of interest his money earns. Which equation is correctly solved for r?

$A - P = Prt$

$\frac{A-P}{Pt} = \frac{Prt}{Pt}$

$\frac{A-P}{Pt} = r$

A $r = APt$

B $r = A - 2Pt$

C $r = \frac{A}{2Pt}$

D $r = \frac{A-P}{Pt}$

2. Lesson: Domain and Range
3. Guided Practice
4. Independent Practice
5. Homework

QUIZ Wednesday

Aug 20-7:49 AM

Homework : Find the Domain & Range

① $\{(3,4), (5,1), (2,1)\}$ (x, y)

②

x	y
0	4
1	5
2	-5

③ Find the ~~domain~~ range given $f(x) = -4x - 6$ when the ~~range~~ domain is $\{0,1,3\}$.

④ Find the domain given $f(x) = x + 5$ when ~~$\{-1,3,4\}$~~ $\{-6,-2,-1\}$

Range:

$y = -1$: $-1 + x + 5$, $-5 \quad -5$, $-6 = x$

$y = 3$: $3 + x + 5$, $-5 \quad -5$, $-2 = x$

$y = 4$: $4 + x + 5$, $-5 \quad -5$, $-1 = x$

$D: \{-6, -2, -1\}$

Nov 14-1:34 PM

① D: $\{2,3,5\}$
R: $\{4,1\}$

② D: $\{0,1,2\}$
R: $\{-5,4,5\}$

③ $f(x) = -4x - 6$

$x = 0$: $y = -4(0) - 6$, $y = -6$

$x = 1$: $y = -4(1) - 6$, $y = -10$

$x = 3$: $y = -4(3) - 6$, $y = -18$

$R: \{-18, -10, -6\}$

Nov 18-8:19 AM

Lesson: how do you determine if a function exists when given ordered pairs, table or graph?

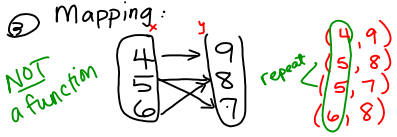
Domain: x
Range: y
Relation: set of ordered pairs (x, y)

To determine if a relation is a function, look at the domain.
If the domain repeats, it is not a function.

① (4,3) (4,4) (4,5)
D: 4,4,4 ← repeats → Not a function.

② (1,2) (2,3) (3,4) (4,2)
Function (Because it does not repeat)

③ Mapping:



NOT a function
repeat (4,9) (5,8) (5,7) (6,8)

④

x	10	11	9	8	7
y	9	8	2	2	2

Function

⑤ (4,6) (2,3) (3,4) (1,6)
#1 → repeats → NOT a function

Oct 17-12:13 PM

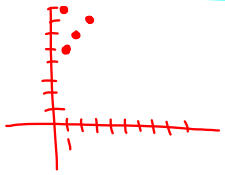
Vertical Line Test VLT

It is used to test if a graph is a function.

If a vertical line could be drawn so that it intersects the graph in more than one position then the relation is not a function if hits more than one po

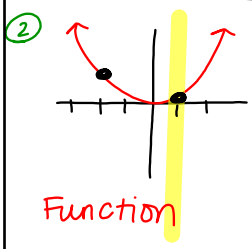
x	y
1	5
2	6
3	7
1	8

NOT a function



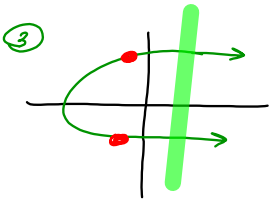
Function or Not

②



Function

③



Not a function

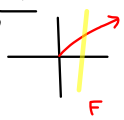
Sep 7-9:56 PM

Functions or Not?

①

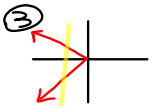
NF

②



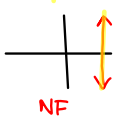
F

③



NF

④



NF

⑤ (4,6) (5,6) (7,6)
F

⑥ (3,1) (4,2) (3,5)
NF

⑧

x	4	6	7	9
y	5	5	4	1

F

⑦

x	y
9	5
8	0
6	4
9	5

NF

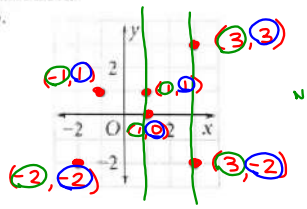
Oct 17-10:50 AM

3. {(17, 15/4), (15/4, 17), (15, 17/4), (17/4, 15)}
(17, 3.75), (3.75, 17) (15, 4.25) (4.25, 15)

4. {(-3, 2/5), (-3, 3/5), (3/2, -5), (5, 2/5)}

function.

5.

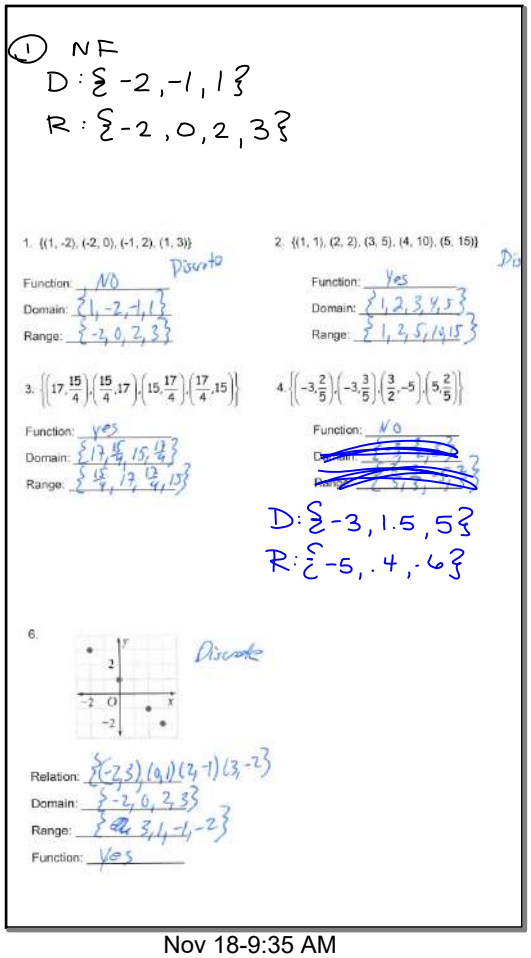


(-1,1) (0,1) (3,2) (-2,-2) (3,-2)

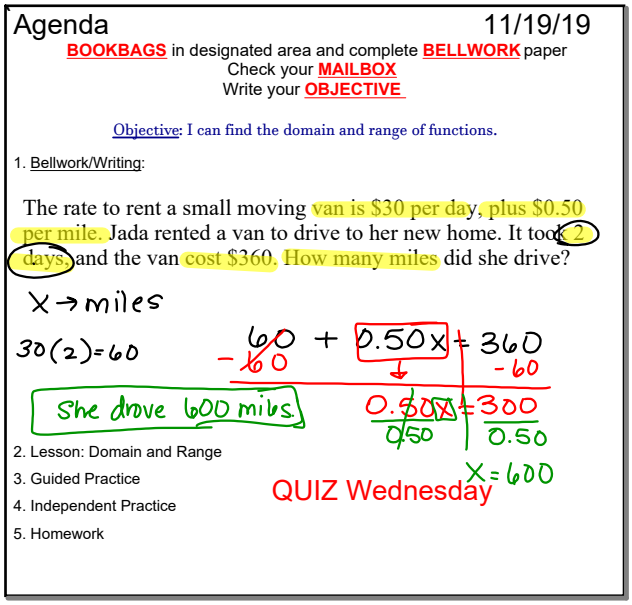
not Funct

D: {-2, -1, 1, 3}
R: {-2, 0, 1, 3}

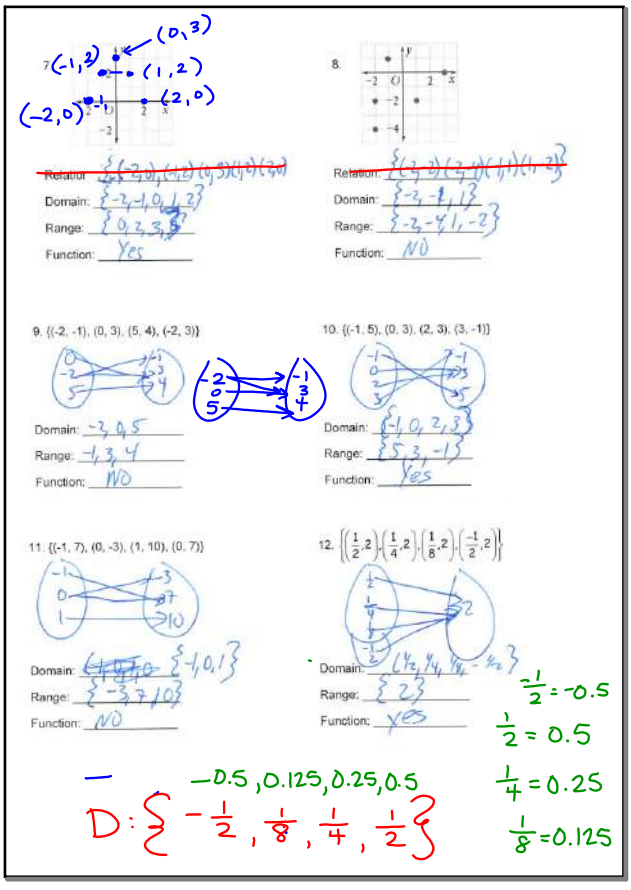
Nov 18-9:15 AM



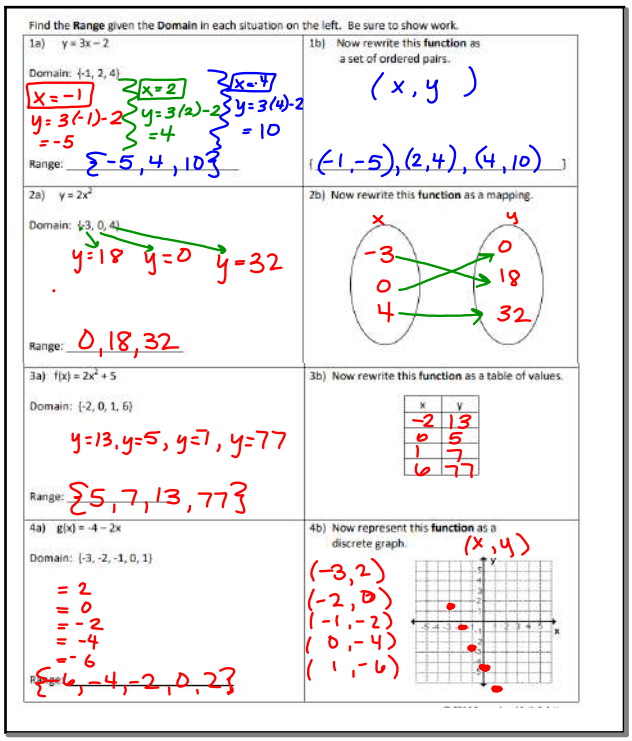
Nov 18-9:35 AM



Aug 20-7:49 AM



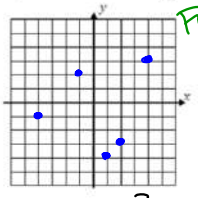
Nov 19-7:33 AM



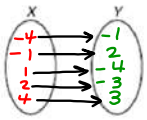
Nov 19-8:29 AM

Example 1: Express the relation ~~{(−4, −1), (−1, 2), (1, −4), (2, −3), (4, 3)}~~ as a table, a graph, and a mapping. Then, state the domain and range of the relation. Function or not a function

x	y
-4	-1
-1	2
1	-4
2	-3
4	3



Function



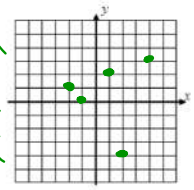
(-4, -1)
x, y

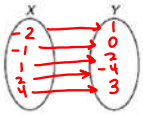
Domain: {-4, -1, 1, 2, 4}

Range: {-4, -3, -1, 2, 3}

a) Express the relation {(−2, 1), (−1, 0), (1, 2), (2, −4), (4, 3)} as a table, a graph, and a mapping. Then, state the domain and range of the relation.

x	y
-2	1
-1	0
1	2
2	-4
4	3





Function

Domain: {-2, -1, 1, 2, 4}

Range: {-4, 0, 1, 2, 3}

Nov 19-7:38 AM