# **Concept 21: Identifying Functions**

#### START DATE:

(materials are available)

Assessment Date:

(date of 1<sup>st</sup> assessment on this concept)

DUE DATE:

(To stay on pace: should be done by now)

#### DEADLINE:

(on THE LIST if note completed)

Pre-Quiz Score = \_\_\_\_\_/5 Score 5 = Level 4 Score 3,4 = Level 3 Score 0,1,2 = Level 2



## (C) <u>Level 2</u>

#### 1. INTRODUCTION: Take Notes & Basic Practice

Mr. Sieling's Video	Alternate Video	From Other Source
Videos are on	Videos are on	
Mr. Sieling's Website	Mr. Sieling's Website	

### 2. PRACTICE ACTIVITIES: (Complete at least 2)

IXL Practice	Worksheet
Q4 (Alg1)	
At least to 95	Level 2: Identifying Functions
Score =	

Activity	Create
Write a movie review of the YouTube Video	An explanation of what a function is.
"meat-a-morphsis" and include why it	Provide at least 2 examples of a function
represents a function. (link on my webpage)	Provide 1 example of a non-function

#### 3. QUIZ (Level 2)

Schoology Quiz: Level 2 – Identifying Functions

Level 2 Quiz Score:

### 3. REMEDIATION

Correct Mistakes on Quiz and Do Another Practice Activity

# (B) <u>Level 3</u>

#### 1. INTRODUCTION: Take Notes & Basic Practice

Mr. Sieling's Video	Alternate Video	From Other Source
Videos are on	Videos are on	
Mr. Sieling's Website	Mr. Sieling's Website	

## 2. PRACTICE ACTIVITIES: (Complete at least 2)

IXL Practice	Worksheet
Q5 (Alg1)	
All the way to 100	Level 3: Identifying Functions
Score =	
Activity	Create
	An explanation of how to use the vertical
Function Sort Activity	line test, include an example of a function,
	and a non-example of a function

Level 3 Quiz Score:

### 3. QUIZ (Level 3)

Schoology Quiz: Level 3 – Identifying Functions

#### **4. REMEDIATION**

**Correct Mistakes on Quiz and Do Another Practice Activity** 

Mr. Sieling's Signature

(A)	) <u>Level 4</u>				
1. INT	RODUCTION: Take Notes & Ba	asic Practice			
	Mr. Sieling's Video	Alternate	e Video	From Other Source	
	Videos are on	Videos a	are on		
	Mr. Sieling's Website	Mr. Sieling'	s Website		
2. PRA	CTICE ACTIVITIES: (Complete a	it least 2)			
	IXL Practice		Worksheet		
	Q2, Q3 (Alg1	)			
	At least to 90	)	Level 4: Identifying Functions		
	Sco	ore =			
	Activity			Create	
	Independent	&			
	Dependent Varia	able	An explanation of domain and range		
	Sorting Activit	τ <b>γ</b>			
3. QUIZ	Z (Level 2)				
	Schoology Quiz: Level 4 –	<b>Identifying Function</b>	ons	Level 4	
				Quiz Score:	

#### **4. REMEDIATION**

#### **Correct Mistakes on Quiz and Do Another Practice Activity**

# Notes Level 2:

#### Goals:

Define a function

Identify a function from a table, list of coordinate points, or a diamgram

Notes:

**Big Ideas** 

Examples/Details

#### Level 2 Practice:

For each diagram, list the domain and range, and state whether or not it is a function.



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

DOMAIN:	RANGE:	FUNCTION
		Yes/No

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

DOMAIN: RANGE: FUNCTION Yes/No



Yes/No





#### Goals:

Define a function

Identify a function from a table, list of coordinate points, or a diagram

#### Practice #1

A. Which tables below represent functions. Explain your answers.

Table 1		Ta	Table 2		ble 3	Table 4		
Input x	Output y	Input x	Output y	Input x	Output y	Input x	Output	
-2	-3	4	-2	-2	0.44	-2	-3	
-1	-1	1	-1	-1	0.67	-1	-5	
0	1	0	0	0	1	1	-1	
1	3	1	1	1	1.5	1	-3	
2	5	4	2	2	2.25	2	-10	
3	7	9	3	3	3.37	3	-2	
4	9	16	4	4	5.06	3	-8	

Table 1:	
Table 2:	
Table 3:	
Table 4:	

#### Practice #2

Functions:

DOMAIN: the input of a function RANGE: the output of a function

For a relationship to be a function there must be \_\_\_\_\_\_ output for each input.

For each table below:

i. does the table represent a function?

- ii. what is the domain?
- iii. what is the range?
- Table A

Input	Output											
1	2		Table	В			1	Tab	ole C			
2	4	Input	1	0	1	Input	1	2	3	4	5	6
3	6	Output	1	2	5	Output	0	0	0	0	0	0

#### Practice #3

Tell whether each table represents a function.

a.	Input	Output
	1	4
	2	3
	3	4
	4	3

Ь.	Input	Output
	red	rose
	blue	sky
	yellow	sun
	blue	ocean

c.	Input	Output
	А	а
	В	b
	С	С
	D	d

#### Practice #4

Tell whether each table represents a function.

a.	Input	Output
	1	4
	2	3
	3	4
	4	3

Ь.	Input	Output
	red	rose
	blue	sky
	yellow	sun
	blue	ocean

c.	Input	Output
	А	а
	В	b
	С	С
	D	d

#### Practice #5

This table converts standard time to military time.

Standard time (A.M.)	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
Military time	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200
Standard time (P.M.)	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
Military time	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400

a. Does this represent a function?

b. Describe the domain.

c. Describe the range.

# Notes Level 3:

#### Goals:

Use the Vertical Line Test to Identify functions from a graph Identify functions from tables and diagrams.

Concept # \_\_\_

#### Notes:

**Big Ideas** 

#### Examples/Details

## Vertical Line Test:



#### Level 3 Practice:

For each scenario, tell whether the relation represents a function.

Input	Output	FUNCTION (Yes/No)	Explain
City	Zip Code		
Last Name	First Name		
Person	Birthday		
State	Capital		

## Practice #2

State whether each graph represents a function or not.



#### Goals:

Use the Vertical Line Test to Identify functions from a graph Identify functions from tables and diagrams.

#### Practice #1

State whether each graph represents a function or not.



Find whether each graph represents a function.



Explain how you know if a graph is a function or not:

Concept # \_\_



# Function

# Not a Function

- 1. Cut out the cards below.
- 2. Create a poster divided into 2 sections. FUNCTION & NOT A FUNCTION
- 3. Paste each card into the appropriate section



# Notes Level 4:

#### Goals:

Identify functions from a graph, table, or diagram.

Identify domain and range.

Identify independent variable and dependent variable.

#### Notes:

**Big Ideas** 



#### **Basic Practice:**

#### Find the domain and range of the function represented by the graph.







Identify the independent and dependent variables for each situation described below.

	Independent Variable	Dependent Variable
John measures the length and width of each side of a rectangle. He uses those values to calculate the area.		
y = 4x + 1		
David measures how many inches his tomato plant grows every week.		

The graph of the function y=f(x) below shows the temperature y outside at different times x over a 24-hour period.



i. Find the following:

Independent Variable =

Dependent Variable =

ii. Describe the following:

#### Domain:



# Worksheet Level 4:

### Goals:

Identify functions from a graph, table, or diagram.

Identify domain and range.

## Identify independent variable and dependent variable.

#### Practice #1

For each table or graph below, determine if it is a function or not. Identify the DOMAIN & RANGE.

X	у
1	-3
6	-2
9	-1
1	3

X	У	
0	2	
3	1	
3	-1	
5	3	

X	у
-4	-4
-1	-4
0	-4
3	-4













#### Identify the dependent and independent variable.

Lacrecia is filling water bottles for a bicycle race. The number of water bottles she prepares is calculated based on how many hours she expects to be on the course.

w = the number of water bottles Lacrecia prepares

h = the number of hours Lacrecia expects to be on the course

Which of the variables is independent and which is dependent?

Marissa makes a salad at a salad bar. The weight of the salad determines how much it will cost.

w = the salad's weight

c = the salad's cost

Which of the variables is independent and which is dependent?

Bibiana and Tabari work at a small film studio and are planning a screening of their first feature-length film. The number of seats they will need to set up in the screening room depends on the number of people who attend the screening.

- s = the number of seats Bibiana and Tabari will need to set up
- p = the number of people who attend the screening

Which of the variables is independent and which is dependent?

A performing arts theater is hosting the local high school musical. The number of tickets that can be sold depends on how many seats there are in the theater.

- t = the number of tickets that can be sold for the performance
- s = the number of seats in the theater

Which of the variables is independent and which is dependent?

The Webster dairy farm produces milk and other dairy products. The number of cows on the farm changes from month to month. The more cows there are on the farm, the more milk the farm is able to produce in a month.

c = the number of cows on the farm

m = the amount of milk produced by the farm in a month

Which of the variables is independent and which is dependent?

#### **Independent vs Dependent Variable Card Sort**

- 1. Cut out each of the cards below.
- 2. Sort the cards into pairs that go together.

Example: The "amount of strawberries you pick" goes with "the number of jars you will be able to fill with jam"

- 3. Create a poster with two sections "Independent Variable" and "Dependent Variable"
- 4. Paste the cards in pairs across from each other in the correct section.

the length of time you	the number of meals
will need to wait	you prepare
the amount of strawberries you pick	the total amount of candy you will hand out
the number of pictures	the number of jars you
the photographer will	will be able to fill with
take	jam
the number of orchestra members who go on tour	the number of songs performed
the number of people you will be able to serve	the number of hotel rooms they will need to reserve
the number of people in	the number of
line ahead of you	cucumbers you have
the number of people in	the number of
line ahead of you	cucumbers you have
the number of students	the number of people
attending the dance	attending the potluck
the number of people in	the number of
line ahead of you	cucumbers you have
the number of students	the number of people
attending the dance	attending the potluck
the number of squares	the amount of money
Marshall cuts the pizza	they will be able to
into	raise
the number of people in	the number of
line ahead of you	cucumbers you have
the number of students	the number of people
attending the dance	attending the potluck
the number of squares	the amount of money
Marshall cuts the pizza	they will be able to
into	raise
the number of pickles	the duration of the
you can make	concert