Ch 1.4 Functions: a relationship between two numbers, called the Input and Output, in which the for every input value there is exactly one output. (plug in one number, get one answer.)

Input- is the independent value that is substituted into the problem. (x's)

Output- is the dependent value that the problem equals. (y's)

Domain- is the collection of input values.

Range- is the collection of output values.

Function Rule - is an equation that models the situation.

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Determine if the following are functions, if so list the domain and range of the function.

Ex1a)

input	output
1	3
2	4
3	5
4	6

*DATING GAME

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Ex1b)

input	output
1	3
2	3
3	4
4	4

or

input	output
1	3
2	3
3	4
4	4

Ex1c)

input	output
1	3
1	4
2	5
2	6

or

input	output
1	3
1	4
2	5
2	6

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1 EXAMPLE **Writing a Function Rule**

Laundry Suppose you are washing and drying clothes at a self-service laundry. The relationship between the number of loads (input) and the cost (output) is a function. Use the table to write a function rule.

Number of Loads	1	2	3	4
Cost	$2.75	$5.50	$8.25	$11.00

What are the domain,range, independent and dependent values?

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1 Write a function rule for the relationship between the number of hours (input) and the number of miles (output).

Hours	1	2	3	4
Total Miles	60	120	180	240

hours = h
miles = m

What are the domain,range, independent and dependent values?

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If a function has more than one step, write it using this format: y = mx + b (slope intercept)

output variable = (the pattern in the output)input variable + #

represents what you start with at 0 for the output.

*when you look at the pattern in the output, the input has to be in increments of 1.

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Example 2)

#students	1	2	3	4
# books	32	34	36	38

Write a function rule:

What are the domain,range, independent and dependent values?

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Example 2b)

function rule:

# hr	$ Canoe Rental
1	$15
2	$25
3	$35
4	$45

What are the domain,range, independent and dependent values?

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# weeks	Savings
1	$52
2	$64
3	$76
4	$88

Try

function rule:

What are the domain,range, independent and dependent values?

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3 The cooking time for an unstuffed turkey is about 20 minutes per pound. What are the independent quantity and dependent quantity for this situation?

The cooking time (minutes) depends on how big the bird is!

function rule:

dependent:

independent:

If the bird weights between 5 - 10 pounds, what are the possible domain and range values?

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4 EXAMPLE Reasonable Domain and Range

Maria earns $7 per hour for baby-sitting after school and on Saturday. She works no more than 16 hours a week.

function rule:

a. Identify the independent and dependent quantities for this situation.

b. Find reasonable domain and range values for this situation.

hrs	0	1	2	3			16
$							

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Ken burns 425 calories/hr when he bikes. He bikes 3 - 7 hr each weekend.

Function Rule:
Independent:
Dependent:
Domain:
Range:

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