

## Unit 9 Functions Review

Identify the input and output values of the functions below:

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

Input/Domain \_\_\_\_\_

Output/Range \_\_\_\_\_

2)

x	y
1	4
2	2
3	-6
4	1

Input/Domain

\_\_\_\_\_

Output/Range

\_\_\_\_\_

Determine if each relation is a function.

3) $\{(6, 7), (6, -2), (2, 6), (-3, -2)\}$	Is this a function?  (circle one)  Yes            No	If you <b>circled no</b> , explain why it is not a function:
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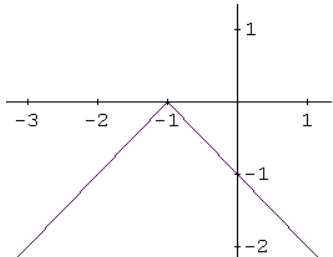
4)	Is this a function?  (circle one)  Yes            No	If you <b>circled no</b> , explain why it is not a function:
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x	y
1	4
2	2
3	-6
4	1

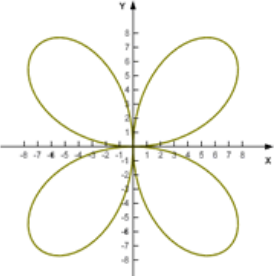
5)	Is this a function?  (circle one)  Yes            No	If you <b>circled no</b> , explain why it is not a function:
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x	y
-1	5
5	2
-2	-3
-1	2

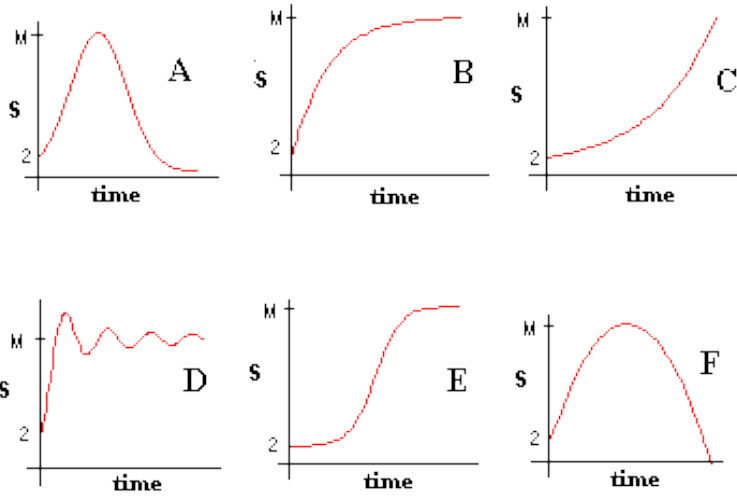
6)	Is this a function?  (circle one)  Yes            No	If you <b>circled no</b> , explain why it is not a function:
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7)	Is this a function?  (circle one)  Yes            No	If you <b>circled no</b> , explain why it is not a function:
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8) Are all of the graphs below functions? Explain.



Graph A	Yes/No	Explain	Graph D	Yes/No	Explain
Graph B	Yes/No	Explain	Graph E	Yes/No	Explain
Graph C	Yes/No	Explain	Graph F	Yes/No	Explain

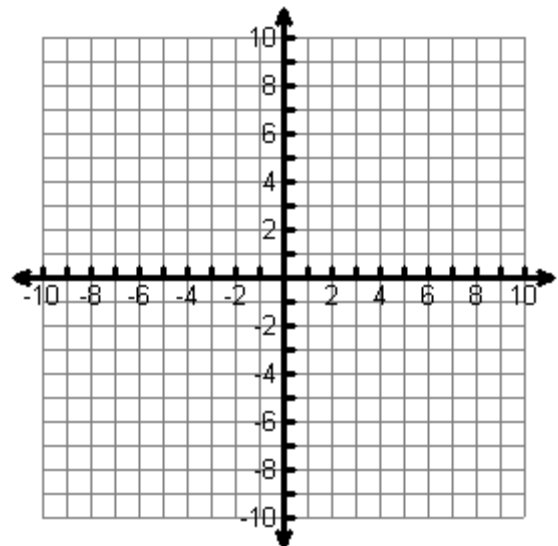
9) Find the values of the range of the function  $f(x) = x^2 + 2$  given a domain of  $\{-1, 0, 2\}$ .

x (input)	y(output)	Ordered pair (x,y)
-1		
0		
2		

Is this a linear or non-linear function? Explain.

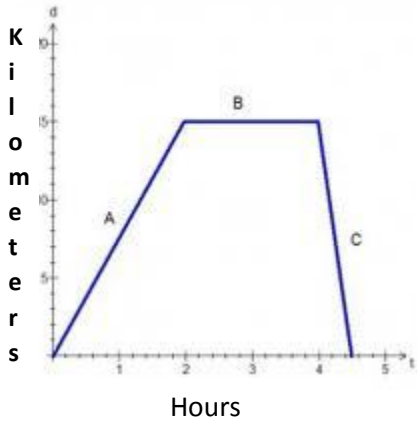
10) Graph the function  $y = -4x + 1$ .

X	$-4x + 1$	Y	(X, Y)
-2			
-1			
0			
1			
2			



Is this function **Linear** or **Non-linear**? Explain.

11) John cycles from his home to the shops. The shops are situated 15 km from his home and he cycles at a constant speed. After John has completed all of his shopping he returns home cycling back at a faster, constant speed. The graph below shows his journey to the shops and back. **Explain what each section of the graph represents from the story above and what John's rate of change is.**



Section A

Rate of change:

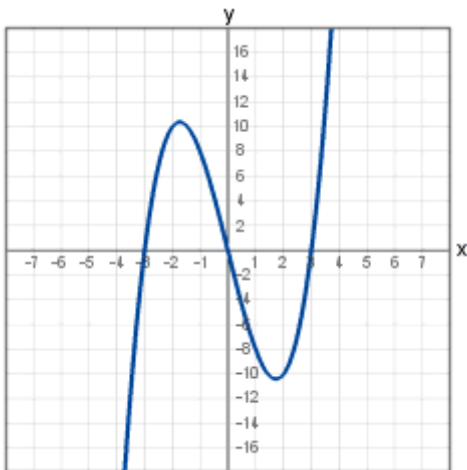
Section B

Rate of Change:

Section C

Rate of Change:

12) Describe the graph of the function between  $x = 2$  and  $x = 5$ ? Use words such as increasing, decreasing, linear, or non-linear.



Description:

What is a Function?

Writing & evaluating functions.

Function tables & graphs

Function rules

Functions on the graphing calculator

