http://www.virtualnerd.com/algebra-1/relations-functions/functions/function-notation/f-of-x-definition

Highlight BLUE Material

In the previous lesson, you learned how to identify a function by analyzing the domain and range and using the vertical line test.

Now we are going to take a look at **function notation** and how it is used in Algebra

The typical notation for a function is f(x). This is read as "f of x" This does NOT mean f times x. This is a special notation used only for functions.

You may see g(x), or h(x), or even b(a). You can use any letters,

Table of Values

$y = 2x + 3$

x	y
0	3
1	5
2	7
3	9

since y is a function of x then we can write

$f(x) = 2x + 3$

y

Any HW Questions

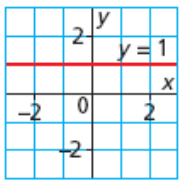
We can do on next page since copied out from book already

Pg 294 6,8,9

Solutions

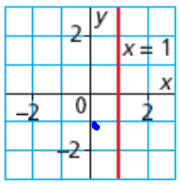
6. Which of these graphs represents a function? Justify your answer.

a)



Function No repeat of x value and passes vertical line test

b)

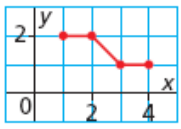


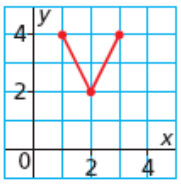
Not Function repeat x=1

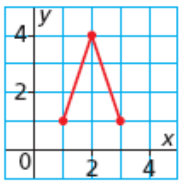
Page 294 - 296:
Questions: 6, 7,8,9, 10

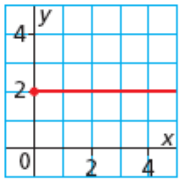
Solutions

7. Match the graph of each function to its domain and range listed below.

a) 

b) 

c) 

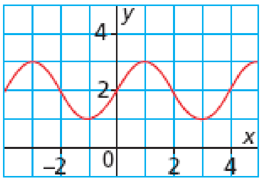
d) 

i) domain: $1 \le x \le 3$; range: $2 \le y \le 4$
ii) domain: $1 \le x \le 3$; range: $1 \le y \le 4$
iii) domain: $x \ge 0$; range: $y = 2$
iv) domain: $1 \le x \le 4$; range: $1 \le y \le 2$

Page 294 - 296:
Questions: 6, 7,8,9, 10

Solutions

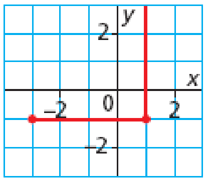
8. Which of these graphs represents a function? Justify your answer. Write the domain and range for each graph.

a) 

{x I , X ∈ _R_ }

{y I 1 ≤y≤ 3, y ∈ R}

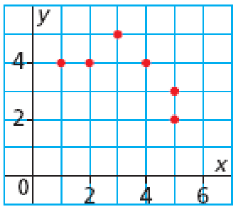
Function No repeat of x value and passes vertical line test

b) 

{x I -3≤x≤ 1, X ∈ R}

{y I - 1 ≤y , y ∈ R}

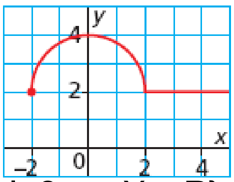
Not Function repeat x=1

c) 

{x I 1 ≤x≤ 5, X ∈ I }

{y I 2 ≤y≤ 5, y ∈ I}

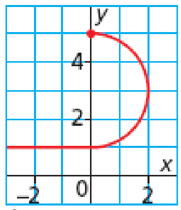
Not Function repeat x=5

d) 

{x I -2 ≤x, X ∈ R}

{y I 2 ≤y≤ 4, y ∈ R }

Function No repeat of x value and passes vertical line test

e) 

Not Function repeat x=0

{x I x≤ 2, X ∈ R}

{y I 1 ≤y≤ 5, y ∈ R}

5.5 Graphs of Relations and Functions

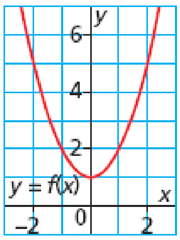
Page 294 – 296:

Questions: 6, 7,8,9, 10

Solutions

9. Determine the domain and range of the graph of each function.

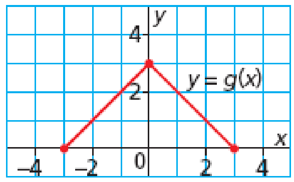
a)



{x I , X ∈ R }

{y I 1 ≤y, y ∈ R}

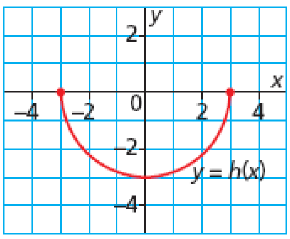
b)



{x I -3 ≤x≤ +3, X ∈ R}

{y I 0 ≤y≤ 3, y ∈ R}

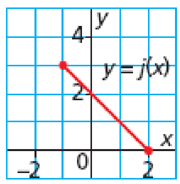
c)



{x I -3 ≤x≤ +3, X ∈ R}

{y I -3 ≤y≤ 0, y ∈ R}

d)



{x I -1 ≤x≤ +2, X ∈ R}

{y I 0 ≤y≤ 3, y ∈ R}

Page 294 - 296:

Questions: 6, 7,8,9, 10

Solutions

10. Suppose a student drew a graph of each function described below. For which graphs should the student connect the points? Justify your answers.

a) The cost of a custom-made T-shirt is a function of the number of letters on the T-shirt.

b) The altitude of a plane is a function of the time it is in the air.

c) The mass of a baby is a function of her age.

d) The cube root of a real number is a function of the number.

PAGE 294 - 296:
QUESTIONS: 6, 7,8,9, 10

Page 299: Questions 3

SOLUTIONS

3) a Not a Function

$\{x \mid 0 \leq x \leq 2 , x \in R \}$

$\{y \mid 1 \leq y \leq 5 , y \in R \}$

3) B Function

$\{x \mid -3 \leq x , x \in R \}$

$\{y \mid 0 \leq y , y \in R \}$

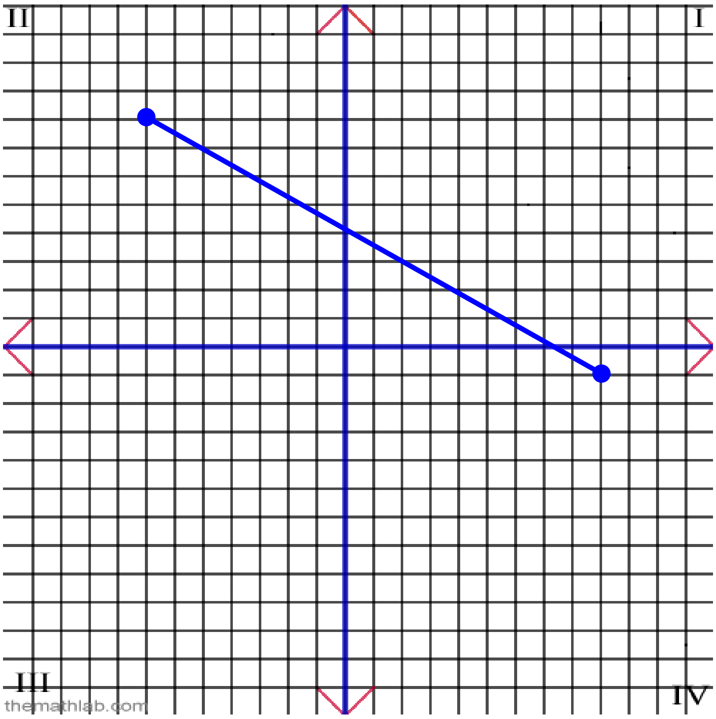
3) c Function

$\{x \mid -2 \leq x \leq 2 , x \in R \}$

$\{y \mid -8 \leq y \leq 8 , y \in R \}$

EXAMPLES!

1.

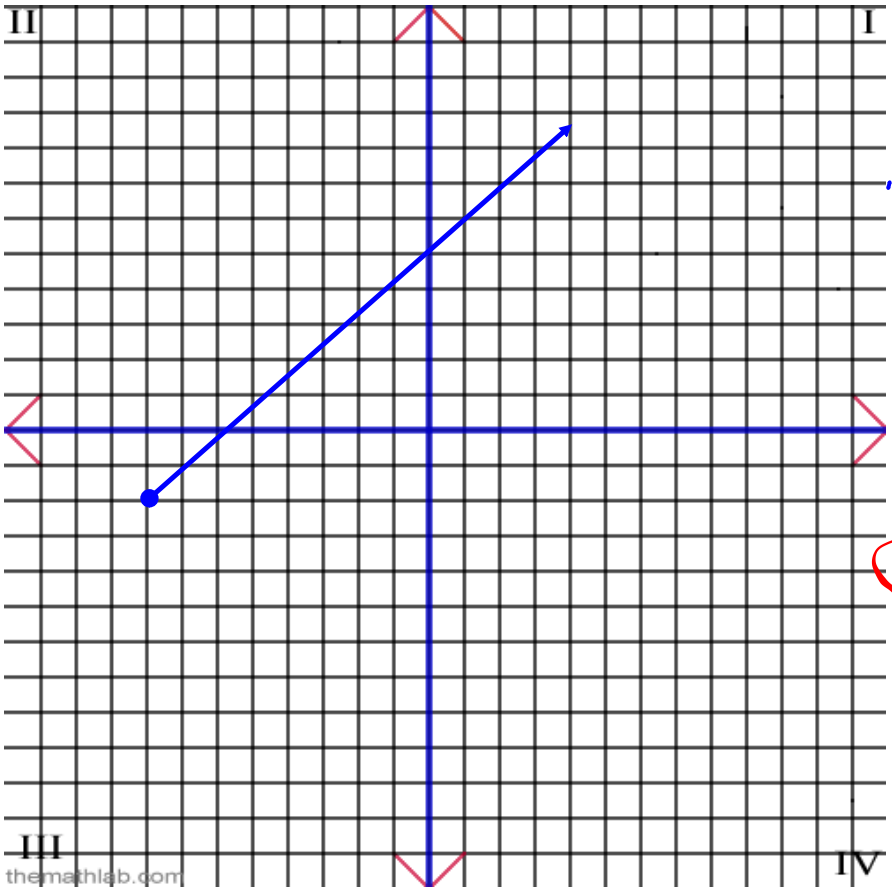


Discrete/ Continuous: Connected

Function/ Non-Functions
→Touches vertical line in one spot

Domain: $\{x \mid -7 \leq x \leq 9, x \in \mathbb{R}\}$

Range: $\{y \mid -1 \leq y \leq 8, y \in \mathbb{R}\}$



Discrete/ Continuous:

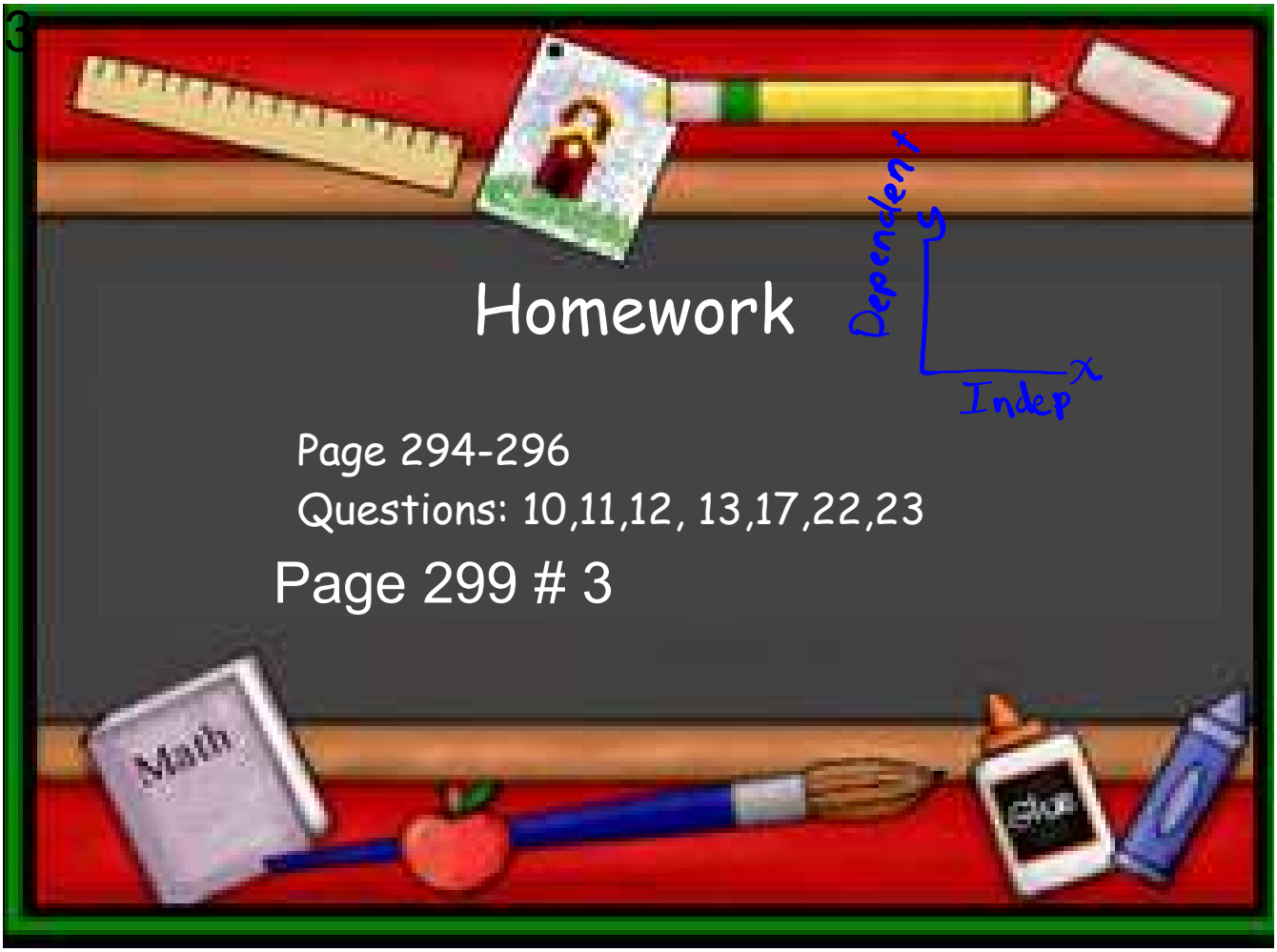
Function/ Non-Functions

Domain:

$\{x \mid -3 \leq x \quad x \in \mathbb{R}\}$

Range:

$\{y \mid -2 \leq y \quad y \in \mathbb{R}\}$


3
Homework
Dependent
y
x
Indep
Page 294-296
Questions: 10,11,12, 13,17,22,23
Page 299 # 3
Math
Glue

Graphing Functional Relationships