

Section 1.4

18

1.4

What is a Function?  
 I can identify what a function is and what it is not.  
 I can identify what function notation looks like.  
 I can tell what domain and range are and what they are used for.

Vocabulary

Function	Vertical Line Test (VLT)	Function Notation
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Range

Domain/Range

Domain

Page 18

page 19

Function	Vertical Line Test (VLT)	Function Notation
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any equation, table or graph in which x-values DO NOT repeat ever

A vertical line that touches the graph at only one point ever.  
 True test = function  
 False test = Not a function

An identification tool for functions that looks like  $f(x), g(x), h(t)$ . Interchanges with  $y$ .

Range

All appropriate x-values (domain) & y-values (range) that allow us to see our graphs.

Domain

Function or Not? Why?

Function

Page 19 notes

Page 21

(23) Evaluate

$f(x) = 2x - 3$ ,  
find  $f(-2)$

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$f(x) = -16x^2 + 68x + 2$ ,  
find  $f(4)$

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$g(x) = 2x - 3$ , find  
 $6 - g(5)$

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$g(x) = -16x^2 + 68x + 2$ ,  
find  $g(-1) - g(2)$

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$h(x) = 2x - 3$ , find  
 $h(-6m)$

(23) Evaluate

$f(x) = 2x - 3$   
 $f(-2) = ?$   
 $2(-2) - 3$   
 $-4 - 3 = -7$

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$f(x) = -16x^2 + 68x + 2$   
 $f(4) = ?$   
 $-16(4)^2 + 68(4) + 2$   
 $-16 \cdot 16 + 272 + 2$   
 $-256 + 272 + 2$   
 $16 + 2 = 18$

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$g(x) = 2x - 3$   
 $6 - g(5)$   
 $6 - (2 \cdot 5 - 3)$   
 $6 - (10 - 3)$   
 $6 - 7$   
 $-1$

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$g(x) = -16x^2 + 68x + 2$   
 $g(-1) - g(2)$   
 $(-16(-1)^2 + 68(-1) + 2) - (-16(2)^2 + 68(2) + 2)$   
 $(-16 \cdot 1 + 68 \cdot (-1) + 2) - (-16 \cdot 4 + 68 \cdot 2 + 2)$   
 $(-16 + -68 + 2) - (-64 + 136 + 2)$   
 $(-84 + 2) - (-74 + 2)$   
 $(-82) - (-74) = -156$

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$h(x) = 2x - 3$   
 $h(-6m)$   
 $2(-6m) - 3$   
 $-12m - 3$

Page 23

Page 23 under flaps

(25) Evaluate

$h(x) = -16x^2 + 68x + 2$ ,  
find  $h(4y)$

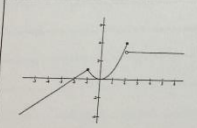
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$f(x) = 2x - 3$ , find  
 $5[f(a)]$

---

$f(x) = -16x^2 + 68x + 2$ ,  
find  $3[f(n)]$

---



$f(-4) =$

---

$f(7) =$

x	y
1	8
3	10
5	12
7	14
9	16

(25) Evaluate

$h(x) = -16x^2 + 68x + 2$   
 $h(4y) =$   
 $-16(4y)^2 + 68(4y) + 2 =$   
 $-16 \cdot 16y^2 + 272y + 2 =$   
 $-256y^2 + 272y + 2$

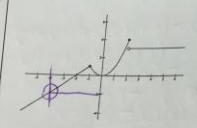
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$f(x) = 2x - 3$   
 $5[f(a)]$   
 $5(2a - 3)$   
 $10a - 15$

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$f(x) = -16x^2 + 68x + 2$   
 $3[f(n)]$   
 $3(-16n^2 + 68n + 2)$   
 $(-48n^2 + 204n + 6)$

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$f(-4) = -2$

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$f(7) = 14$

x	y
1	8
3	10
5	12
7	14
9	16

Page 25

Page 25 under flaps