

Algebra 2 Honors

Functions Equations & Graphs

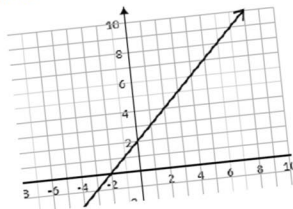


_____ Date _____ Period _____

Warm-Up #1

Lesson 2.1: Relations and Functions

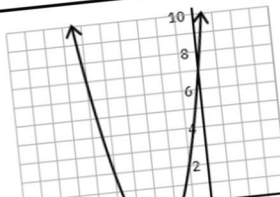
1. Use the graph to create a table of values.



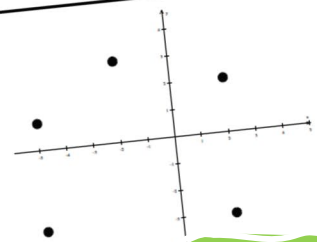
2. Given $F(x) = -\frac{1}{3}x - 2$ find the outputs given the following inputs.

x	-3	0	3	6
$F(x)$				

3. Identify the domain and range of the following relation. Is it a function?



4. Identify the domain and range of the following relation. Is it a function?



Warm-Ups

Completely Editable

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ALGEBRA 2 HONORS CURRICULUM

Scope and Sequence

Unit 2: Functions, Equations & Graphs

UNIT 2	Functions, Equations and Graphs	19
2-1	Relations and Functions	1
2-2	Direct Variation	1
2-3	Linear Functions and Slope-Intercept Form	1
2-4	More About Linear Equations	2
2-5	Piecewise Functions	2
2-6	Using Linear Models	2
2-7	Families of Functions	2
2-8	Absolute Value Functions and Graphs	2
2-9	Two-Variable Inequalities	2

ALGEBRA 2 CURRICULUM

Scope and Sequence

Unit 2: Functions, Equations and Graphs

Lesson	Skills & Learning Objectives
[2.1] Relations and Functions	- Identify functions using a variety of representations - Describe, analyze, and graph relationships to identify functions - Interpret data in tables and graphs to identify functions
[2.2] Direct Variation	- Understand similarity and proportion in relation to direct variation - Write direct variation equations using similarity and ratios - Interpret the effects of changing parameters in direct variation
[2.3] Linear Functions and Slope-Intercept Form	- Understand the properties of lines on graphs - Graph linear equations - Write equations of lines using slope-intercept form - Analyze and describe relationships with linear equations - Interpret real-world data models to write linear equations
[2.4] More About Linear Equations	- Write linear equations using point-slope form, standard form, and slope-intercept form. - Write equations given a point and a slope - Write equations given two points - Convert between different forms of linear equations - Use properties of parallel and perpendicular lines - Analyze and interpret linear relationships from real-world data
[2.5] Piecewise Functions	- Analyze, graph, evaluate piecewise functions - Graph functions given piecewise defined equations - Given a graph, write the piecewise function

ALGEBRA 2 CURRICULUM

Scope and Sequence

Unit 2: Functions, Equations and Graphs

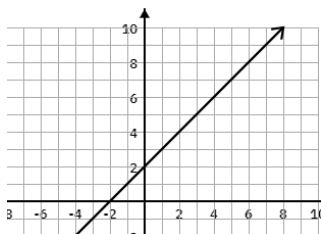
Lesson	Skills & Learning Objectives
[2.6] Using Linear Models	☐ Write linear equations that model real-world data ☐ Make predictions from linear models using estimation strategies
[2.7] Families of Functions	☐ Graph transformations of linear, quadratic and absolute value function families ☐ Use rigid and non-rigid transformation properties to graph ☐ Analyze transformations and write equations in standard form
[2.8] Absolute Value Functions and Graphs	☐ Describe, analyze, and graph absolute value functions ☐ Write equations of transformed absolute value graphs
[2.9] Two-Variable Inequalities	☐ Describe, analyze, and graph linear and absolute value inequalities

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Lesson 2.I: Relations and Functions

Warm-Up #1

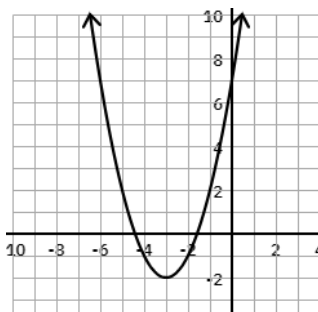
1. Use the graph to create a table of values.



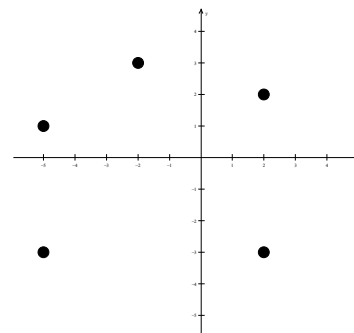
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$F(x)$				

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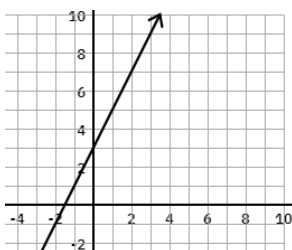


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Lesson 2.I: Relations and Functions

Warm-Up # 2

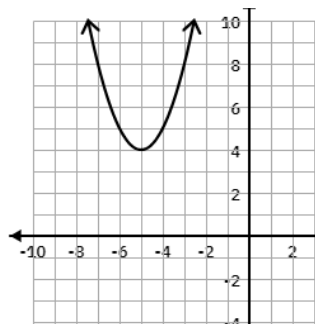
1. Use the graph to create a table of values.



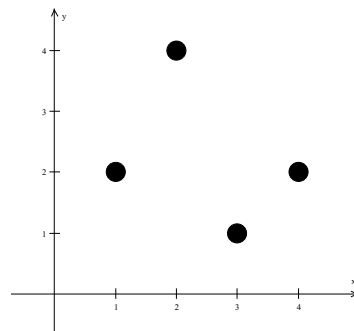
2. Given $F(x) = -\frac{1}{4}x - 3$ find the outputs given the following inputs.

x	-4	0	4	8
$F(x)$				

3. Identify the domain and range of the following relation. Is it a function?



4. Identify the domain and range of the following relation. Is it a function?



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Lesson 2.5: Piecewise Functions

Warm-Up #1

1. Given. $f(x) = \begin{cases} x + 3, & x > 0 \\ -x, & x \leq 0 \end{cases}$, find

a) $f(0)$

b) $f(-1)$

c) $f(1)$

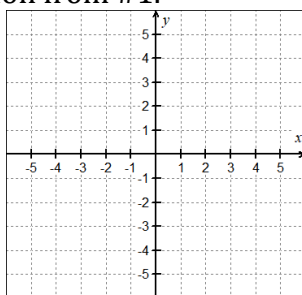
2. Given. $g(x) = \begin{cases} \frac{1}{3}x + 3, & x > -2 \\ -2x, & x \leq -2 \end{cases}$, find

a) $f(-2)$

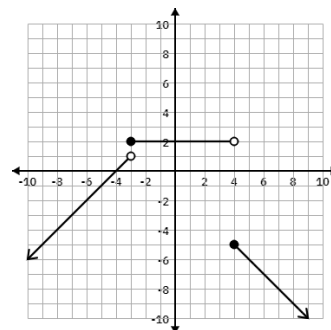
b) $f(-3)$

c) $f(-1)$

3. Graph the piecewise function from #1.



4. Write the piecewise function that represents the graph.



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Lesson 2.5: Piecewise Functions

Warm-Up #2

1. Given. $f(x) = \begin{cases} -x + 5, & x > 0 \\ x - 2, & x \leq 0 \end{cases}$, find

a) $f(0)$

b) $f(-1)$

c) $f(1)$

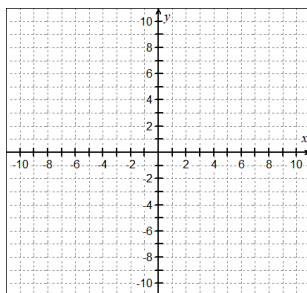
2. Given. $g(x) = \begin{cases} \frac{1}{4}x - 1, & x > -4 \\ -2x, & x \leq -4 \end{cases}$, find

a) $f(-4)$

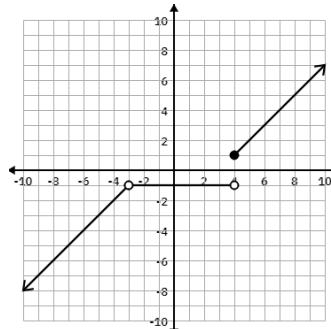
b) $f(-3)$

c) $f(-5)$

3. Graph the piecewise function from #2.



4. Write the piecewise function that represents the graph.

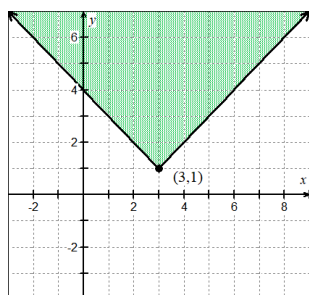


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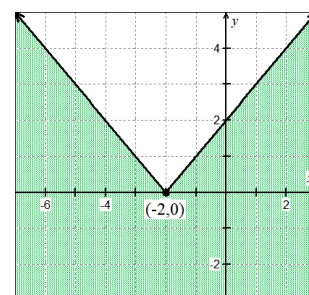
Lesson 2.9 Two Variable Inequalities

Warm-Up #1

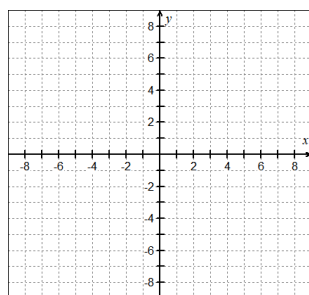
1. Write an inequality for the graph.



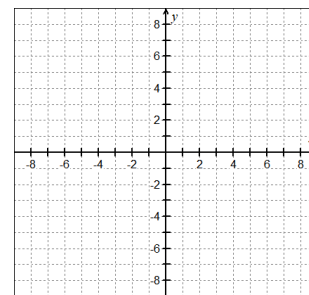
2. Write an inequality for the graph.



3. Graph $-2y > 2x - 4$



4. Graph $3y > 4x + 6$

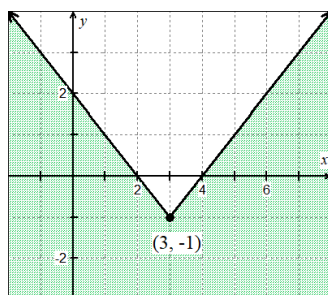


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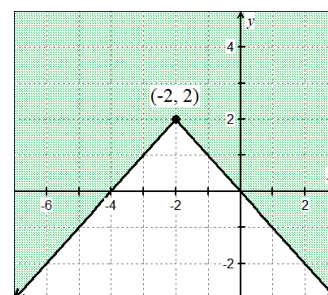
Lesson 2.9 Two Variable Inequalities

Warm-Up #2

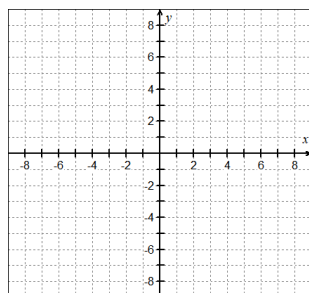
1. Write an inequality for the graph.



2. Write an inequality for the graph.



3. Graph $-3y \leq 2x + 6$



4. Graph $3x + 2y > 8$

