

## Chapter 3 - Linear Equations and Functions

**3.9 Objective:** To find equations of linear functions and to apply properties of linear functions.

### Agenda

- 1) take HW out to be checked *Last night's HW: p 144 Oral Ex. # 7, 10  
p 144 Written Ex. # 25  
p 156 Written Ex. #1, 3, 7\*\*, 22, 23*
- 2) DO NOW (10 min)
- 3) Reminder Problems (10 min)
- 4) JIGSAW: Using Function Notation to Find Equations of Linear Functions
  - each group will be assigned 1 problem to become an "expert" (5 min)
  - each group will then present work on document camera (3 min each)

*HW: p. 144 #35, 39 (composites)*

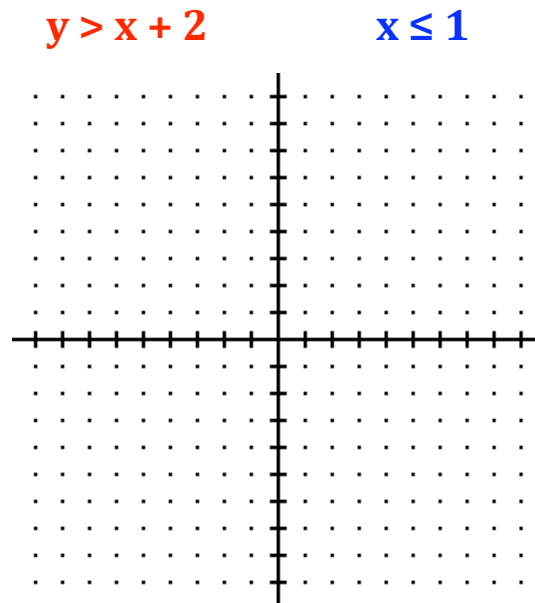
*p. 149 #1, 3, 9, 17, 23, 25, 27, 31\*\*, 32\*\* (challenge)*

## Chapter 3 - Linear Equations and Functions

**3.9 Objective:** To find equations of linear functions and to apply properties of linear functions.

### DO NOW

1) Graph the system of Inequalities (pay attention to dotted or solid lines)



2)  $f(x) = 2x - 1$                        $g(x) = x^2 + 5$

Find:

$f(0)$

$g(-3)$

$f(x) = 9$ , solve for  $x$

\* $g(f(0))$

\* $f(g(-3))$

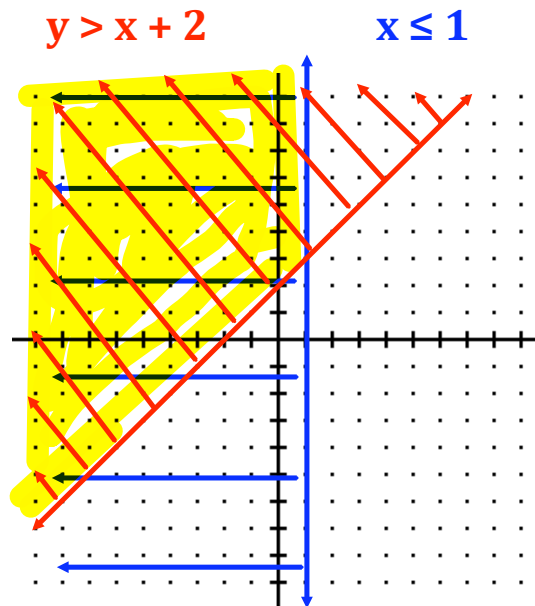
\* $f(g(2))$

## Chapter 3 - Linear Equations and Functions

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### DO NOW

1) Graph the system of Inequalities (pay attention to dotted or solid lines)



2)  $f(x) = 2x - 1$        $g(x) = x^2 + 5$

Find:

$f(0)$

**-1**

$g(-3)$

**14**

$f(x) = 9$ , solve for  $x$

**5**

$*g(f(0))$

$*f(g(-3))$

$*f(g(2))$

$f(0) = 1$  so...

$g(1) = 6$

$g(-3) = 14$  so...

$f(14) = 27$

$g(2) = 9$  so...

$f(9) = 17$

## Reminder Problems

Slope-Intercept Form	Point-Slope Form
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Find the equation of the line given the following information:

1) slope =  $\frac{2}{3}$ , y- intercept = 4

2)  $m = \frac{3}{4}$  and goes through the point (5 , 7)

3) Goes through the two points (2,4) and (5, -5)

4) And just so were clear:

$f(-2) = 4$  means when  $x = \underline{\hspace{2cm}}$  ,  $y = \underline{\hspace{2cm}}$

and can be written as the coordinate (  $\hspace{1cm}$  ,  $\hspace{1cm}$  )

## Using Function Notation to Find Equations of Linear Functions

Slope-Intercept Form	Point-Slope Form
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Find an equation of the linear function using the given information

1) If  $f(0) = -2$ , slope of graph =  $\frac{1}{2}$

2)  $m = -1$ ,  $f(2) = 3$

3)  $f(2) = 6$ ,  $f(4) = 0$

4)

x	g(x)
2	1
4	4
?	-2
-2	?

5) \*\* If  $f(2) = 10$  and  $f(10) = -2$ ,  
find  $f(-10)$  and  $f(100)$ .

***HW: p. 144 #35, 39 (composites)  
p. 149 #1, 3, 9, 17, 23, 25, 27, 31\*\*, 32\*\* (challenge)***