Warm Up

Which symbol makes it true?

$<$	$>$	$\leq$	$\geq$

a.) $4 \boxed{>} -3$

b.) $-7 \boxed{<} -5$

c.) $27 \boxed{>} 18$

d.) $1 \boxed{<} 2$

e.) $-12 \boxed{<} 6$

f.) $-8 \boxed{\geq} -8$

Section 1.1A

Testing Solutions to an Inequality

1. Identify the x-value and y-value in the given coordinate pair.
2. Substitute the x-value and y-value into the inequality.
3. Simplify.
4. Determine whether the inequality is true or false.

TRUE = solution!

FALSE = NOT a solution!

Example 1:

Which of the following coordinate pairs are solutions to the inequality $3x - y \geq 7$?

a. (4,3)	b. (-1,6)	c. (0,-7)
$3x-y \geq 7$ $3(4)-(3) \geq 7$ $12-3 \geq 7$ $9 \geq 7$ (4,3) is a solution	$3x-y \geq 7$ $3(-1)-(6) \geq 7$ $-3-6 \geq 7$ $-9 \geq 7$ (-1,6) is NOT a solution	$3x-y \geq 7$ $3(0)-(-7) \geq 7$ $0+7 \geq 7$ $7 \geq 7$ (0,-7) is a solution

1.1A *Introduction to Linear Inequalities*

1) For Molly's reading assignment homework she receives 10 points for every nonfiction book she reads and 5 points for every fiction book she reads. Identify 5 combinations of nonfiction and fictions books that Molly can read to earn **exactly** 50 points.

10 pts 5 pts

p. P-1

p. B-1 ANSWERS

# of nonfiction books	# of fiction books	Record your thinking of *how* you know this combination satisfies the conditional goal
5	0	$5(10)+0(5)=50$
0	10	$0(10)+10(5)=50$
3	4	$3\cdot10+4\cdot5=50$
2	6	$2(10)+6(5)=50$
4	2	$4(10)+2(5)=50$

a) Number and label the graph, then graph the points you have identified above along with **all** of the possible combinations of nonfiction and fiction books that she can read to get **exactly** 50 points. Is this a linear relationship? Explain why or why not.

fiction

nonfiction

b) Molly will earn a free homework pass for the next reading assignment if she earns **more than** 50 points. Identify 5 possible combinations of nonfiction and fiction books that would give her **more than** 50 points. On the coordinate grid, graph these 5 possible combinations along with all possible combinations that represent situations where she would earn more than 50 points.

# of nonfiction books	# of fiction books	Record your thinking of *how* you know this combination satisfies the conditional goal for part (b).
3	7	$3(10)+7(5)=65$
4	5	$4(10)+5(5)=65$
8	8	
7	7	
6	6	

c) What differences are there between the graph of a linear equation (creating exactly 50 points) and the graph of a linear inequality (creating more than 50 points)?

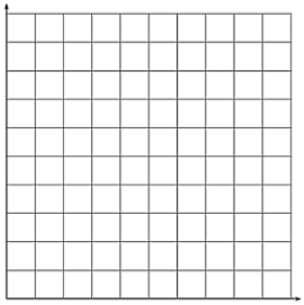
1.1A *Introduction to Linear Inequalities*

2) Members of the Anoka High School Ski Club went on a ski-trip where members can rent skis for $16 per day and snowboards for $20 per day. The club only brought with $240 on the trip

a) Identify four possible combinations of ski rental and snowboard rental that would allow the Ski Club to spend **exactly** $240. Then graph them on the coordinate grid. (Remember to number and label your graph appropriately.)

$16 $20

# of ski rentals	# of snowboard rentals	Record your thinking of *how* you know this combination satisfies the conditional goal
15	0	$15(16)+0(20)=240$
5	8	$5(16)+8(20)=240$



b) **Identify** the *x*- and *y*-intercepts and **explain** the *meaning* of these two ordered pairs.

x-intercept _____ meaning: _____

y-intercept _____ meaning: _____

c) **Describe** what the graph would look like if you graphed **all** possible combinations of renting skis and snowboards that the club would be able to rent with the $240 they brought with.

HOMEWORK:

1.1 A

1-8 (P-1)