Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Guided Notes: Linear Inequalities**



***Example 1: Graphing an Inequality***

***I can graph an inequality on the coordinate plane.***

Graph y < 2x +3

#1) Graph boundary line – solid or dashed?

#2) Shade. . . think about y *.*

#3) Check your shading with substitution.

* pick a point \_\_\_\_\_\_
* Substitute it in.



Graph y ≥ 3x - 1

#1) Graph boundary line – solid or dashed?

#2) Shade. . . think about y *.*

#3) Check your shading with substitution.

* pick a point \_\_\_\_\_\_
* Substitute it in.

Got it?\_\_\_\_\_\_\_\_

Got

***Example 2: Rewriting to Graph an Inequality***

***I can rewrite an inequality to graph it on the coordinate plane.***

Graph 3x – 5y ≤ 10

#0) Get in y = mx + b

#1) Graph boundary line – solid or dashed?

#2) Shade. . . think about y *.*

#3) Check your shading with substitution.

* pick a point \_\_\_\_\_\_
* Substitute it in.



Graph 6x + 8y > 12

#0) Get in y = mx + b

#1) Graph boundary line – solid or dashed?

#2) Shade. . . think about y *.*

#3) Check your shading with substitution.

* pick a point \_\_\_\_\_\_
* Substitute it in.

Got it?\_\_\_\_\_\_\_\_

***Example 3: Using Inequalities to Model Real-World Applications***

***I can write an inequality to solve a real-world application, and graph it to represent the solution.***



Suppose your budget for a party allows you to pend no more than $12 on peanuts and cashews. Peanuts cost $2/lb and cashews cost $4/lb. Find three possible combinations of peanuts and cashews you can buy.

|  |  |
| --- | --- |
| **Define** |  |
| **Sort your numbers out** |  |
| **Write some sentences** |  |
| **Write some equations** |  |



What are some possible combinations for peanuts and cashews you can buy?

Suppose you plan to spend no more than $24 on meat for a cookout. At your local market, hamburger costs $3.00/lb and chicken wings cost $2.40/lb. Find three possible combinations of hamburger and chicken wings you can buy.

|  |  |
| --- | --- |
| **Define** |  |
| **Sort your numbers out** |  |
| **Write some sentences** |  |
| **Write some equations** |  |

Graph your graph on desmos.com. Sketch a picture of it here. Include intercepts, a ans labels, and d shading.

What are some possible combinations of hamburger and chicken wings you can buy?

Got it?\_\_\_\_\_\_\_\_