LINEAR INEQUALITIES

Graphing Calculator Reference Sheet

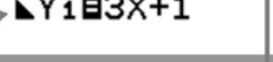
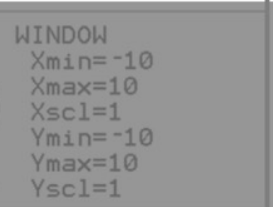
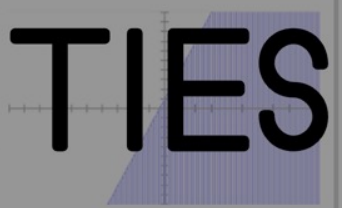
GRAPH *the* INEQUALITY

$y \leq 3x + 1$

slope-intercept form

≥ or > : above

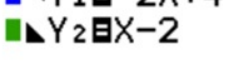
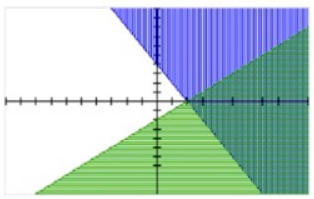
≤ or < : below

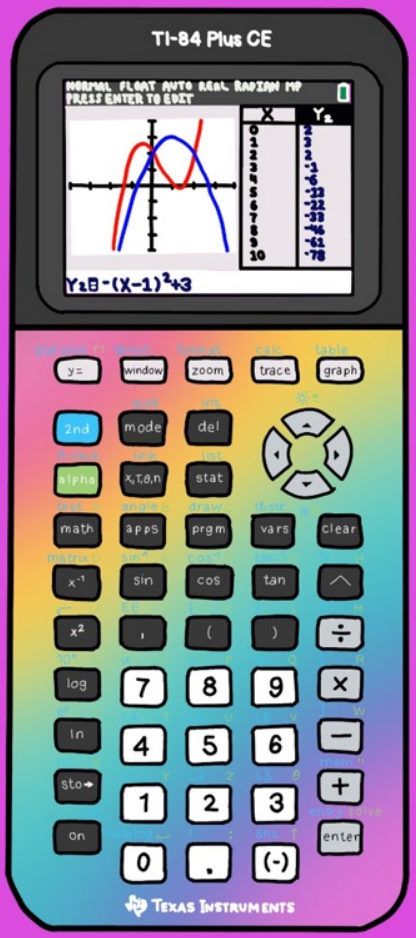
STEPS	PICTURE
❑ **STEP 1: Y1 = 3x + 1** • Arrow to the far left side of Y1 • ENTER until the "shade below" symbol is displayed	
❑ **STEP 2: Adjust your WINDOW** • Set your graph to the standard window setting • ZOOM – Choose 6:ZStandard	
❑ **STEP 3: GRAPH** The graph will shade the area that makes the inequality TRUE • Move the cursor to identify coordinates • **NOTE:** You will need to decide whether to draw a solid line or a dotted line for the inequality, as the calculator will always display a solid line by default.	

GRAPH *the* SYSTEM

$y > -2x + 4$

$y \leq x - 2$

❑ **STEP 1: Y1 = -2x + 4 and Y2 = x – 2** • Change Y1 to display the shade above symbol • Change Y2 to display the shade below symbol	
❑ **STEP 2: GRAPH** • The double shaded region on the graph makes the system TRUE • Move the cursor to identify coordinates	



Graphing Calculator Reference Sheet

ALGEBRA and Beyond

[ALG, ∞)

LINEAR INEQUALITIES

Graphing Calculator Reference Sheet

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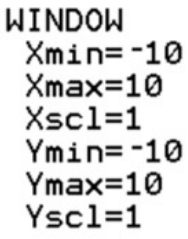
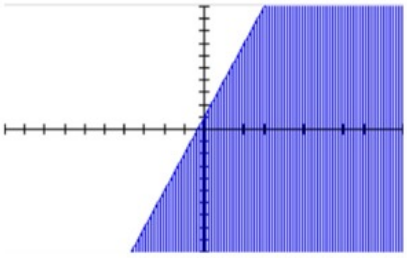
❑ **STEP 2: Adjust your WINDOW** • Set your graph to the standard window setting • ZOOM – Choose 6:ZStandard	
❑ **STEP 3: GRAPH** • The graph will shade the area that makes the inequality TRUE • Move the cursor to identify coordinates • **NOTE:** *You will have to determine whether to draw a solid line or a dotted line for the inequality, as the calculator will always display a solid line by default.*	

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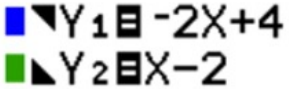
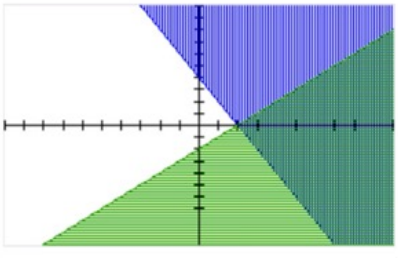
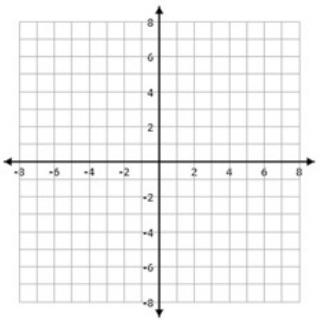
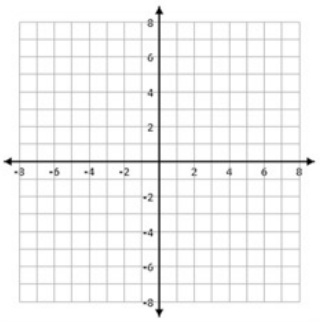
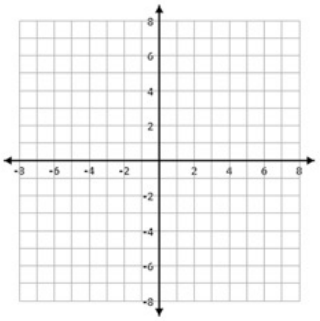
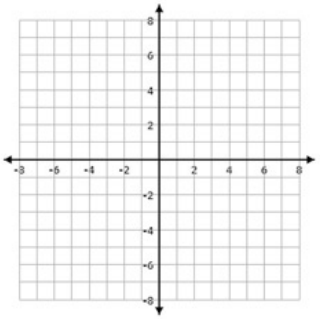
❑ **STEP 1: Y1 = -2x + 4 and Y2 = x – 2** • Change Y1 to display the shade above symbol • Change Y2 to display the shade below symbol	
❑ **STEP 2: GRAPH** • The double shaded region on the graph makes the system TRUE • Move the cursor to identify coordinates	

LINEAR INEQUALITIES

Graphing Calculator Practice Sheet

Name: _____ Date: _____

For each inequality, write it in slope-intercept form. Then, check the boxes of the points that *are* solutions to the inequality. Then, graph the inequality.

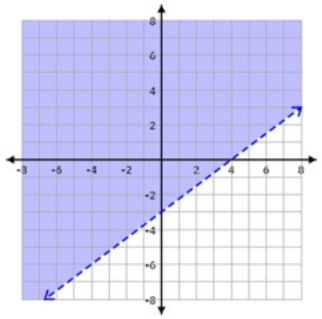
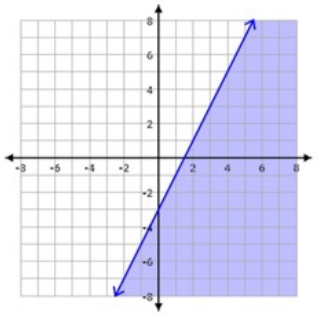
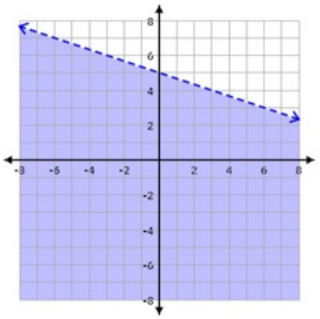
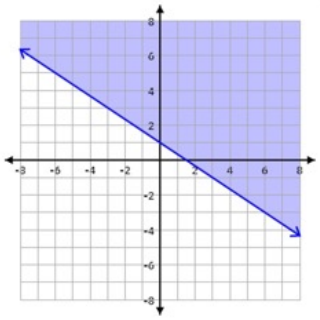
INEQUALITY	SOLUTION(S)	GRAPH
1 Standard Form $3x - 4y < 12$ Slope-Intercept Form	❑ (0,0) ❑ (4,0) ❑ (6,-2) ❑ (-4,-3)	
2 Standard Form $-2x + y \leq -3$ Slope-Intercept Form	❑ (0,0) ❑ (-2,0) ❑ (2,1) ❑ (5,-3)	
3 Standard Form $x + 3y < 15$ Slope-Intercept Form	❑ (0,0) ❑ (6,0) ❑ (-3,6) ❑ (4,4)	
4 Standard Form $2x + 3y \geq 3$ Slope-Intercept Form	❑ (0,0) ❑ (4,4) ❑ (-2,1) ❑ (3,-1)	

LINEAR INEQUALITIES

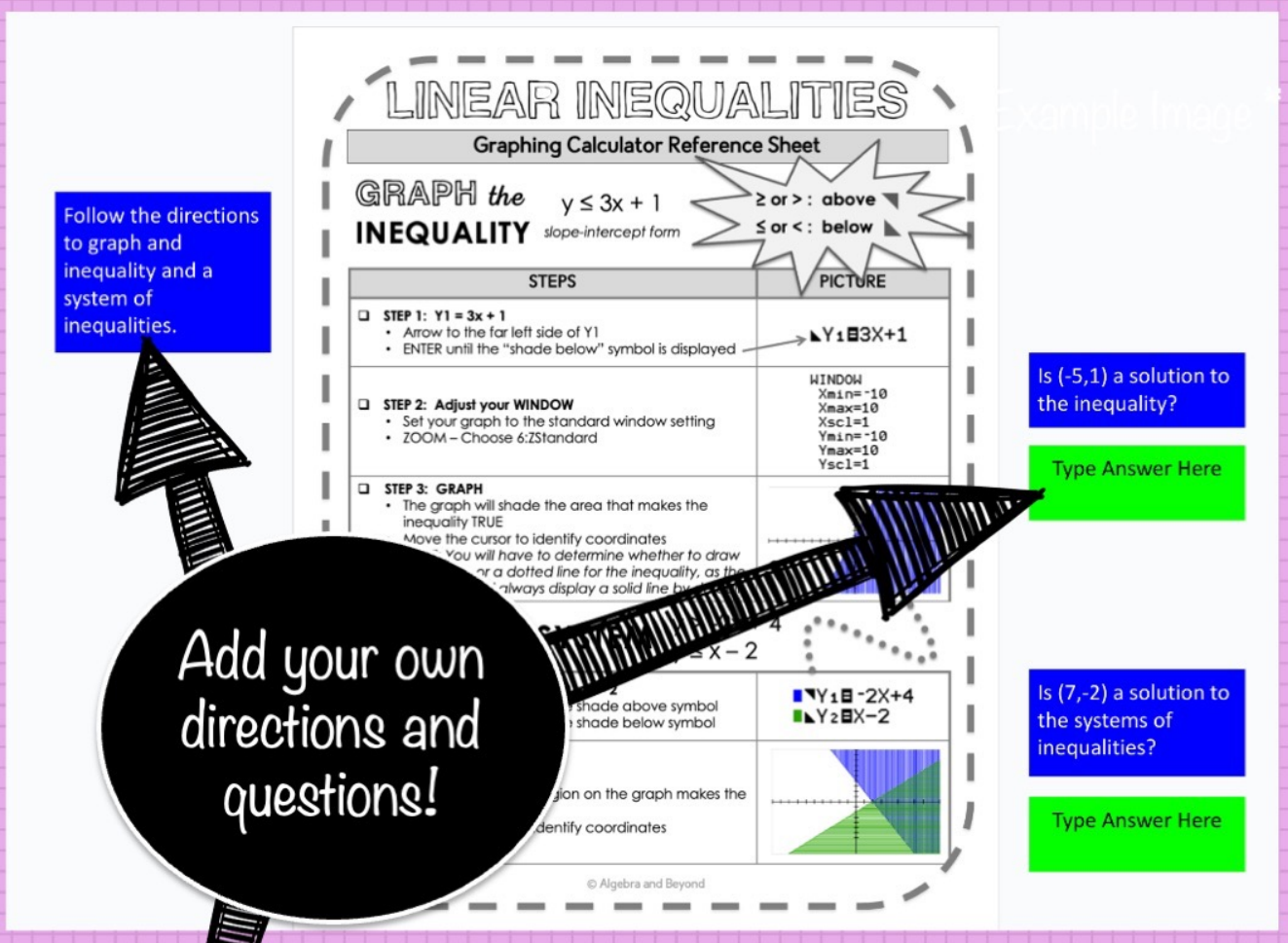
Graphing Calculator Practice Sheet

Name: _____ Date: _____

For each inequality, write it in slope-intercept form. Then, check the boxes of the points that *are* solutions to the inequality. Then, graph the inequality.

INEQUALITY	SOLUTION(S)	GRAPH
1 Standard Form $3x - 4y < 12$ Slope-Intercept Form $y > \frac{3}{4}x - 3$	☑ (0,0) ☐ (4,0) ☐ (6,-2) ☑ (-4,-3)	
2 Standard Form $-2x + y \leq -3$ Slope-Intercept Form $y \leq 2x - 3$	☐ (0,0) ☐ (-2,0) ☑ (2,1) ☑ (5,-3)	
3 Standard Form $x + 3y < 15$ Slope-Intercept Form $y < -\frac{1}{3}x + 5$	☑ (0,0) ☑ (6,0) ☐ (-3,6) ☐ (4,4)	
4 Standard Form $2x + 3y \geq 3$ Slope-Intercept Form $y \geq -\frac{2}{3}x + 1$	☐ (0,0) ☑ (4,4) ☐ (-2,1) ☑ (3,-1)	

Digital Version in Google Slides



Follow the directions to graph and inequality and a system of inequalities.

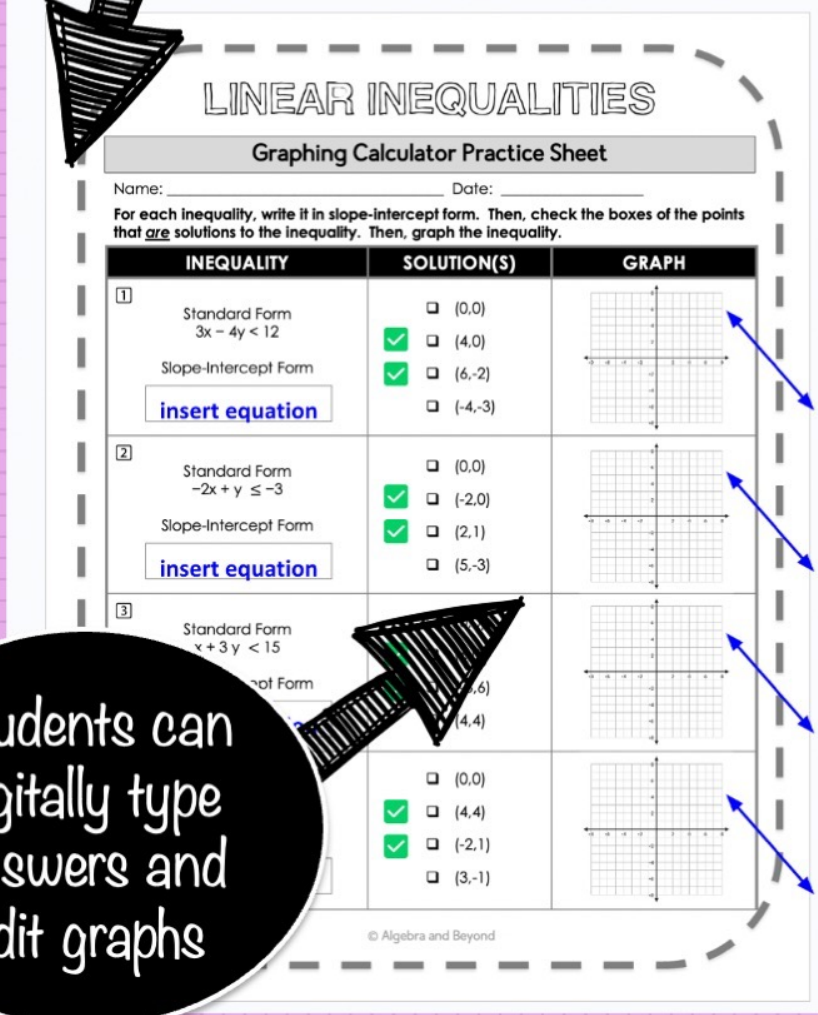
Add your own directions and questions!

Is (-5,1) a solution to the inequality?

Type Answer Here

Is (7,-2) a solution to the systems of inequalities?

Type Answer Here



GRAPHS:
1) Edit the lines for the graph
2) Insert a new line and choose scribble to shade the correct area.

Students can digitally type answers and edit graphs

Note to Teacher

1. You and your students will each need a Google account (free) and the Internet to do this activity.

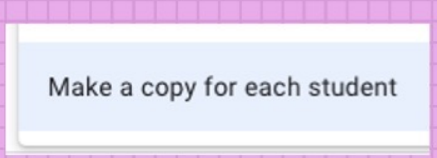
2. Click on this link to access the digital version:

   Graphing Calculator Reference Sheets

3. You will be prompted to make your own copy. You should click "make a copy". If the prompt does not show up, click File -> Make a copy -> Ok

4. You can now add your own directions and questions using sticky notes, text boxes, or the pen to digitally write on each page.

5. Then, send a copy to students via Google Classroom. Attach the Slides from your Google Drive and select "make a copy for each student" in the dropdown box. If you don't have Google Classroom, you can share your file with each student and then have them click on this icon and choose "make a copy".



Hello! I'm Tyra – an educational blogger and curriculum designer. I provide creative, comprehensive, and clear resources for middle and high school math teachers. My goal is to create content that is easy to implement for the teacher, and helps students connect knowledge with understanding…one lesson at a time.

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