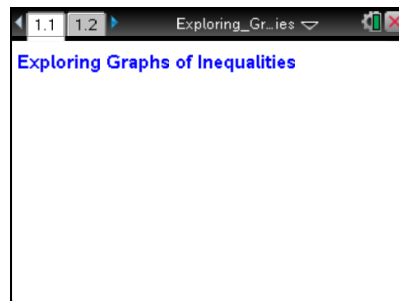


### Activity Overview:


In this activity, you will create a new document and add a *Graphs* application. You will then use the application to explore mathematical properties.

### Materials

- Technology needed (TI-Nspire™ handheld, computer software)



### Preparing the Document

**Step 1:** Create a new document by pressing  **on** > **New Document** > **Add Notes**.

**Step 2:** Type *Exploring Graphs of Inequalities*.

**Note:** To obtain capital letters, press **g**, then the letter.



**Step 3:** Press **~** > **File** > **Save As ...**

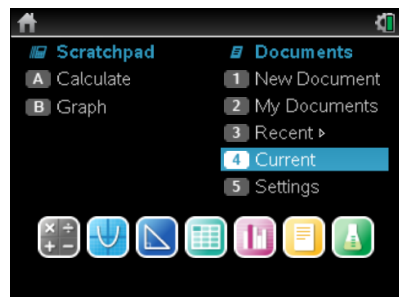
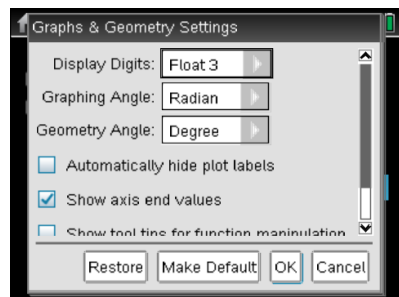
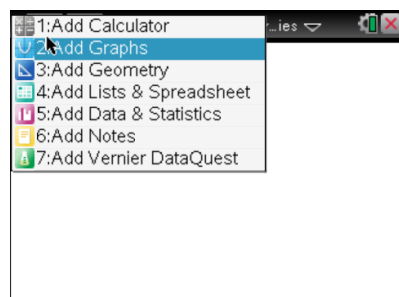
Type *Exploring\_Graphs\_of\_Inequalities*,

**Tab** to **[save]** and press **enter**.

**Note:** To obtain the underscore, press **ctrl** .

**Step 4:** To add a new page, press **ctrl** **doc** > **Add Graphs**.

**Step 5:** Press **menu** > **Settings**. Press **tab** to move from one field to the next and press  to uncheck all the boxes, but keep the box that says *Show axis end values*. **Tab** to **OK** and press  or **enter**.

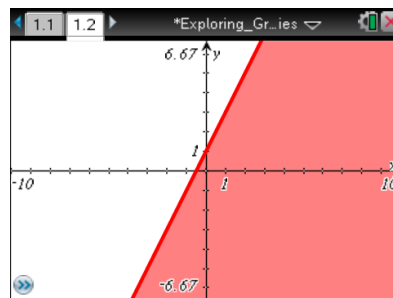
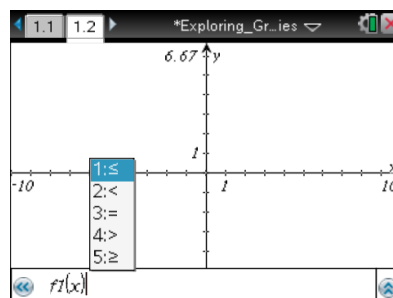


Enter the Inequality into  $f1(x) =$ .

**Step 1:** The cursor will be flashing in the  $f1(x) =$  entry line at the bottom of the screen.

**Step 2:** To erase the = sign, press  $\boxed{\text{del}}$ . A menu will pop up showing inequality options. Use the  $\blacktriangledown$  or  $\blacktriangle$  to highlight the  $<$  sign. Press  $\boxed{\text{enter}}$ . The display shows  $y <$ .

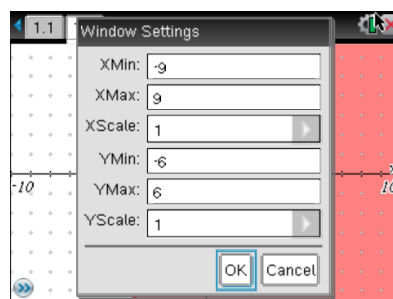
**Step 3:** Enter  $2x + 1$ . Press  $\boxed{\text{enter}}$ .



### Show the Grid and Adjust the Window Settings

**Step 1:** Select  $\boxed{\text{menu}}$  > View > Grid > Dot Grid.

**Step 2:** Select  $\boxed{\text{menu}}$  > Window / Zoom > Window Settings. Type in the settings shown at the right. **Note:** use  $\boxed{\text{tab}}$  to move between fields. Once you  $\boxed{\text{tab}}$  to OK, press  $\boxed{\text{enter}}$ . This will create a “square” window.

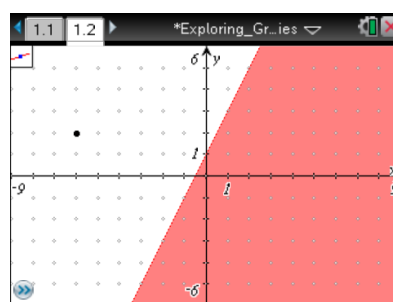


### Place a Point on the Grid

**Step 1:** Select  $\boxed{\text{menu}}$  > Points & Lines > Point On.

**Step 2:** Move the  $\text{hand}$  until *grid* is displayed, then press  $\boxed{\text{enter}}$  twice. A point will appear at this location.

**Step 3:** Press  $\boxed{\text{esc}}$ .



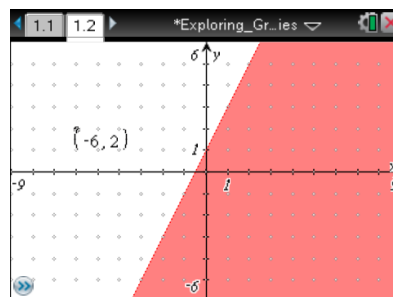
### Display the Point's Coordinates

**Step 1:** Select  $\boxed{\text{menu}}$  > Actions > Coordinates and Equations.

**Step 2:** Move the  $\text{hand}$  until the word *point* is displayed. The coordinates of the point will be faintly displayed.

**Step 3:** Press  $\boxed{\text{enter}}$  twice.


**Step 4:** Press  $\boxed{\text{esc}}$  to close the Actions menu.






# Exploring Graphs of Inequalities

## Math Nspired—Creating a Document

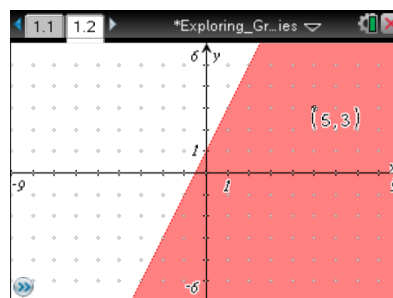
### Move the Point

**Step 1:** Move the cursor until  and *point* appears around the point on the grid.

**Step 2:** To grab that point, press **ctrl** . The  will change to .

**Step 3:** Use the Touchpad or Clickpad to move the point around the screen. Notice that the coordinates change as you move the point.

**Step 4:** Press **esc** to stop moving the point.



### Save the Document

**Step 1:** Press **ctrl** **S**.

### Change the Inequality Sign (Optional)

**Step 1:** Show the entry line by pressing **ctrl** **G**.

**Step 2:** Press **▲** to display the current relation.

**Step 3:** Press **◀** until the cursor is between < and 2

**Step 4:** Press **del** to erase the <. A menu will pop up showing inequality options.

**Step 5:** Press the **▼** until the  $\geq$  symbol is highlighted. Press **enter**.

Note: Do not resave this document after completing this last optional step.

