



Exploring Graphs of Inequalities

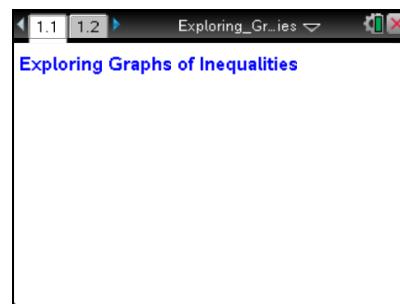
Math Nspired - Creating a Document

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)

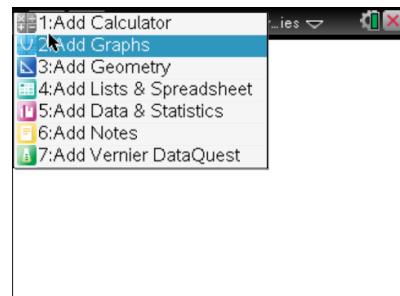


Preparing the Document

Step 1: Create a new document by pressing **[home]** > **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 ...**

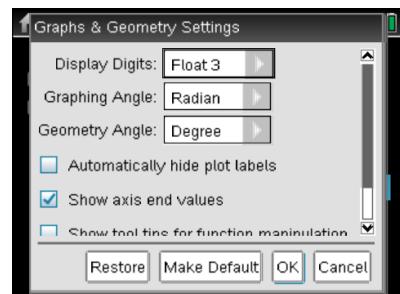
Type *Exploring_Graphs_of_Inequalities*,

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

Note: To obtain the underscore, press **[ctrl] [u]**.

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 **[esc]** to uncheck all the boxes, but keep the box that says *Show axis end values*. Tab to **OK** and press **[esc]** or **[enter]**.





Exploring Graphs of Inequalities

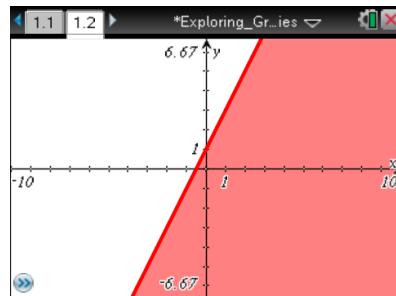
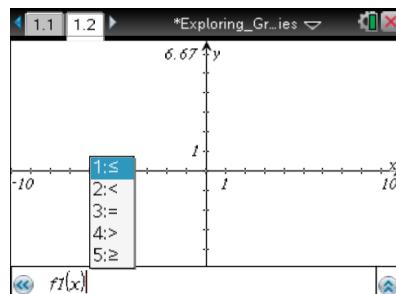
Math Nspired—Creating a Document

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 **del**. A menu will pop up showing inequality options. Use the **▼** or **▲** to highlight the $<$ sign. Press **enter**. The display shows $y <$.

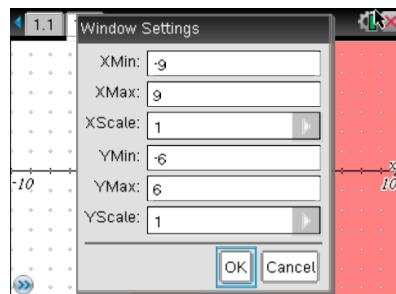
Step 3: Enter $2x + 1$. Press **enter**.



Show the Grid and Adjust the Window Settings

Step 1: Select **menu** > **View** > **Grid** > **Dot Grid**.

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

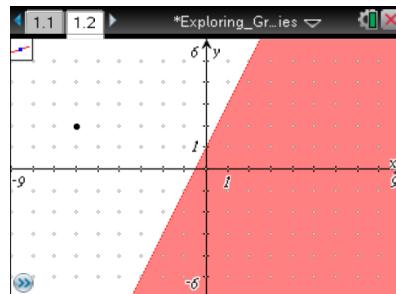


Place a Point on the Grid

Step 1: Select **menu** > **Points & Lines** > **Point On**.

Step 2: Move the **▼** until *grid* is displayed, then press **enter** twice. A point will appear at this location.

Step 3: Press **esc**.



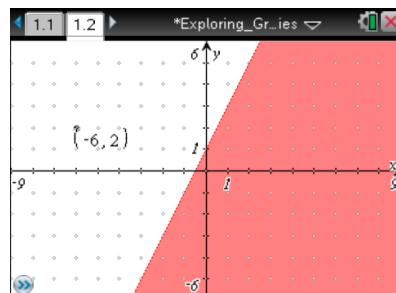
Display the Point's Coordinates

Step 1: Select **menu** > **Actions** > **Coordinates and Equations**.

Step 2: Move the **▼** until the word *point* is displayed. The coordinates of the point will be faintly displayed.

Step 3: Press **enter** twice.

Step 4: Press **esc** to close the Actions menu.





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Math Nspired—Creating a Document

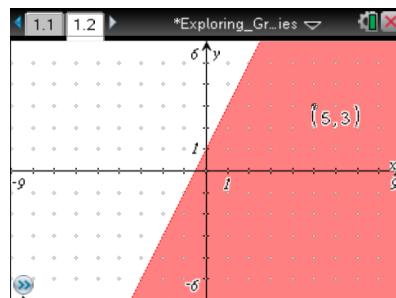
Move the Point

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.

