Using Sliders to Investigate Power Functions

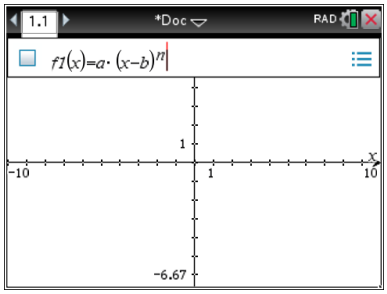
TI PROFESSIONAL DEVELOPMENT

Activity Overview

This activity describes how to create a TI-Nspire™ document with sliders. You will learn how to add sliders to change the graph of $f(x) = a(x-b)^n$ *and insert self-check Question pages in the document to gauge student understanding.*

Step 1:

Open a new document and insert a Graphs page.

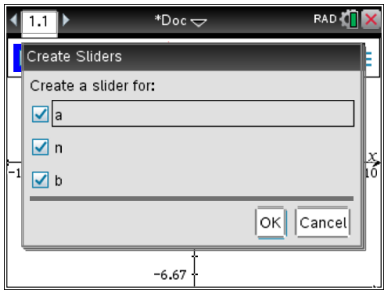


Step 2:

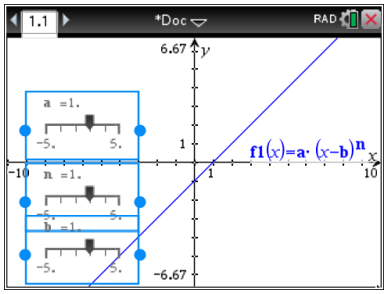
Enter: $f1(x) = a(x-b)^n$

Step 3:

Observe that the software recognizes the need for the constants a, b and n and suggests creating a slider for each. Click **OK**.

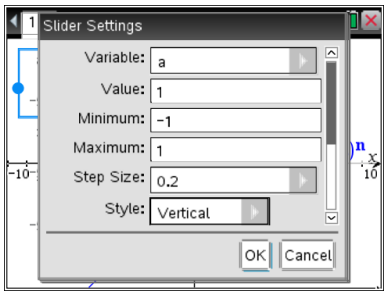


Note: The blue outline surrounding each slider indicates that each can be grabbed and dragged to other locations on the screen.



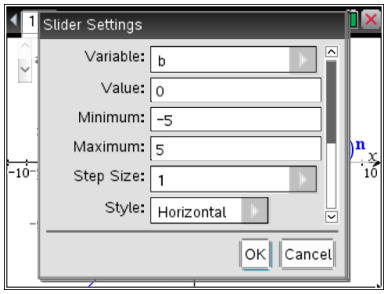
Step 4:

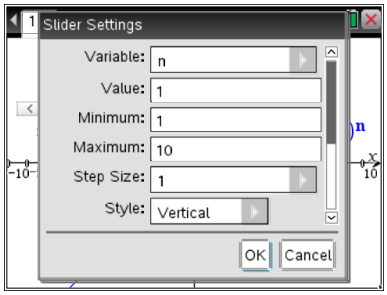
Right-click on the slider for the constant, a, and choose Settings. Set the slider values as shown. Scroll down and check the **Minimized** box. Click **OK**.



Step 5:

Repeat Step 4 for the sliders for the remaining constants b and n. Set the slider values as shown. Scroll down and check the **Minimized** box. Click **OK**.



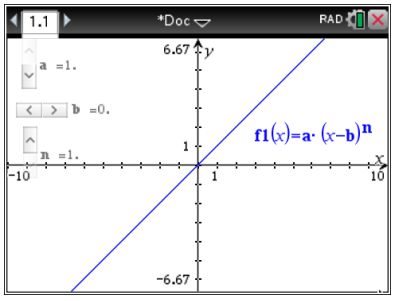


Step 6:

Save the document on your computer as **Slider_Power**.

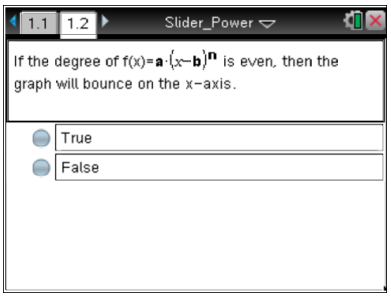
Step 7:

Click on each of the three sliders to see the effect of each parameter on the graph. List questions below that would be appropriate to ask students as they are exploring the parameters.



Step 8:

Select **Insert > Question** and choose a **Question Type**. Write a question that would reflect student understanding. Select the **Document Tools** panel under the **Document Toolbox** to configure the question.



Step 9:

Insert additional questions and question types.

Step 10:

Share your questions with other participants.

Optional:

Try another function type that could be investigated using sliders. Investigate the other settings and the effects they have on the sliders.