
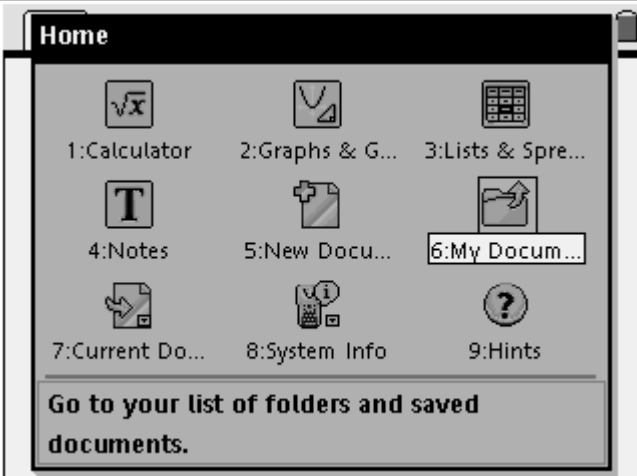



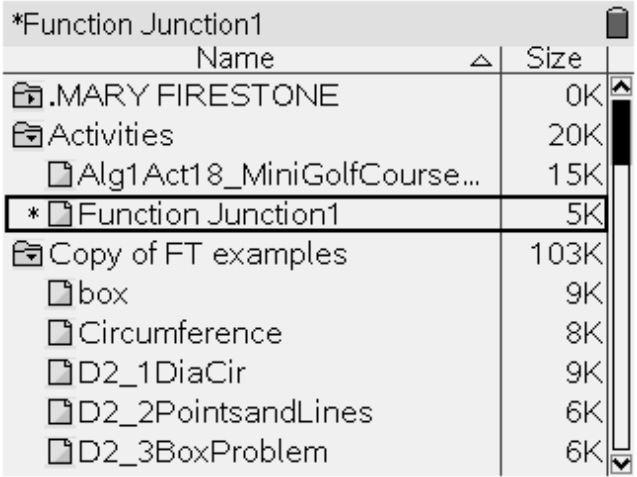




TI-*n*spire™

Function Junction

In this activity students will investigate the changes made in the equation of a function as it is transformed or translated.

It is very important for you to read every step. Hints are given throughout the worksheet to help you.

1) Turn your calculator on and press  .	
2) Highlight 6. My Documents and press  .	
3) Scroll to Activities and press  , find "Function Junction1" and press  again.	
4) Read the description of the activity. Press   to advance to the next page.	

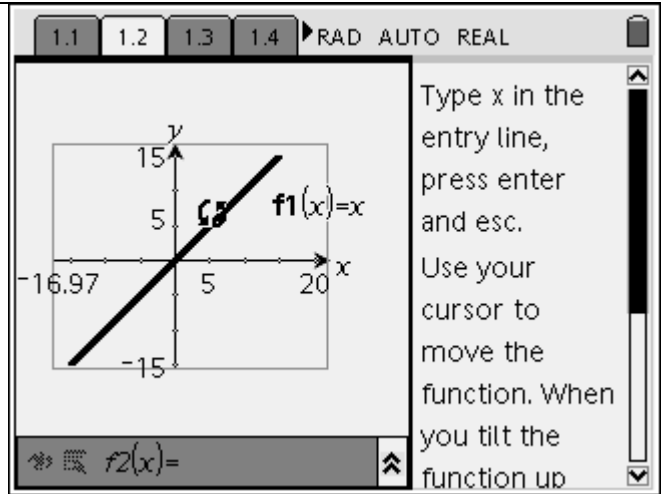
5) Follow directions on the right side of the screen.

To move from one side of the screen to the other, press $\text{ctrl} + \text{tab}$.

Each of the problems you should move your equation to a place on your screen where you can see the changes taking place before moving the function.

To move the equation place the cursor over the equation until you see f1 . Then double click $\text{ctrl} + \text{click}$ or press $\text{ctrl} + \text{click}$.

To tilt the line up and down move the cursor over the function until you see the f1 symbol. Press $\text{ctrl} + \text{click}$ or double click click .

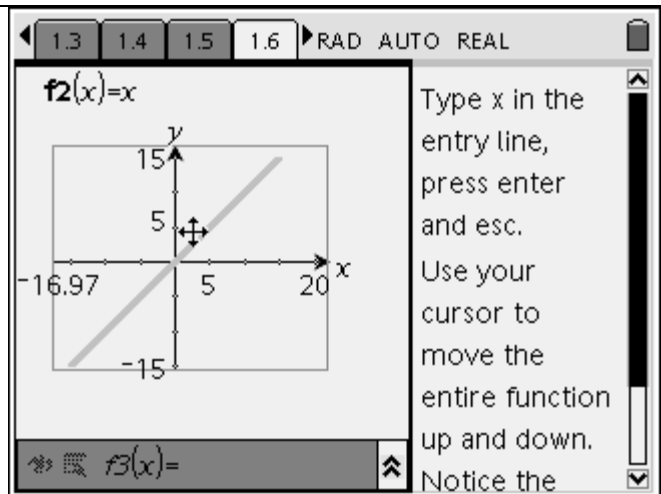


6) Press $\text{ctrl} + \text{right arrow}$ to advance to the next page. Answer question 1.3 on your worksheet.

7) Repeat step 6) until you have answered questions 1.4-1.5.

8) Press $\text{ctrl} + \text{right arrow}$ to advance to 1.6 and follow the directions on the right side of the screen.

To move the entire function up and down move the cursor towards the middle of the graph of the function until you see f2 . Press $\text{ctrl} + \text{click}$ or double click click .



9) Press **ctrl** **▶** to advance to the next pages. Answer questions 1.7 – 1.10 on your worksheet.

1.4 1.5 1.6 1.7 RAD AUTO REAL

Question

Explain what happens to your equation when you move the entire function up and down.

Answer **▼**

10) Continue to problem 2 and follow the directions on the right side of the screen.

To move the sides of the function up and down move the cursor over the function until you see $\frac{1}{2}$. Press **ctrl** $\frac{1}{2}$ or double click $\frac{1}{2}$.

1.7 1.8 2.1 2.2 RAD AUTO REAL

Type x^2 in the entry line, press enter, and esc. Use your cursor to move the sides of the function up and down. Notice the effect on your equation.

$f1(x) = x^2$

$f2(x) =$

11) Press **ctrl** **▶** to advance to the next page. Answer question 2.2 and 2.3 on your worksheet.

2.2 2.3 3.1 3.2 RAD AUTO REAL

Question

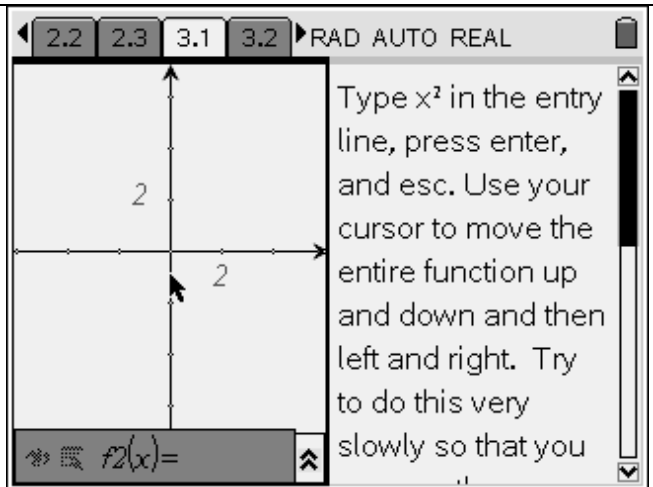
What is the shape of the function $f1(x) = x^2$? You may describe it or sketch it.

Answer **▼**

12) Continue to problem 3.1 and follow the directions on the right side of the screen.

To move the entire function up and down or side to side, move the cursor towards the middle of the graph of the function until you see \updownarrow . Press $\text{ctrl} + \updownarrow$ or double click \updownarrow .

Try to move the function slowly. It is important to see what happens when you move the function up and down and then what happens when you move it side to side. Try to focus on only one change at a time. See if you can distinguish which change in the graph effects which part of the equation.



13) Press $\text{ctrl} + \text{right arrow}$ to advance to the next pages. Answer questions 3.2 – 3.5 on your worksheet.