

Graphing Calculator Lab

Graphing Proportional Relationships

Main IDEA

Graph proportional relationships.

You can use a Casio CFX-9750G graphing calculator to graph an equation that represents a proportional relationship.

ACTIVITY

CORN DOGS The corn dog was invented for the Texas State Fair in 1942. Suppose Booth A at a fair sells corn dogs for \$2 each while Booth B charges \$3 for each corn dog. Write and graph an equation representing the total cost y for selling x corn dogs.

STEP 1 Write an equation to show the relationship between the number of corn dogs sold x and total cost y at each booth.

Booth A

Total cost is \$2 per corn dog.

$$y = 2x$$

MENU 5

Booth B

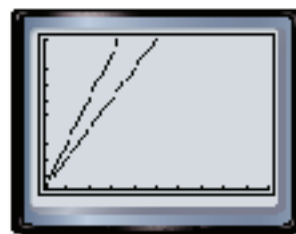
Total cost is \$3 per corn dog.

$$y = 3x$$

STEP 2 Enter the expression $2x$ into Y1 and $3x$ into Y2.

STEP 3 Next, change the view of your graph by pressing **SHIFT** **F3** and entering the values shown below.

STEP 4 Finally, graph the equations by pressing **F6**.



ANALYZE THE RESULTS

- MAKE A CONJECTURE** Which equation is represented by the steeper line? Explain. To check your conjecture, press **SHIFT** **F1** and then use **↑** and **↓** keys to switch between the two lines.
- Press **SHIFT** **F5** **F6** **F1** **EXE** 3 **EXE**. Repeat for Y1. What do the x - and y -values displayed represent?
- MAKE A CONJECTURE** Suppose Booth C sells corn dogs for \$2.50 each. How should the graph of this equation appear in relationship to the graphs of the other two equations? Explain. Check your answer by entering the appropriate equation into Y_3 , pressing **F6**, and switching between the equations.