

# The Variables of Renting

**Student Activity** 

Name \_\_\_\_\_

In this lesson you will look at a scenario of renting a video game system. You are going to rent a video system for \$0.25 per hour plus \$1.50 as a surcharge.

#### Part 1 - Number Sentences

1. If you rent the system above for 4 hours, how much will you pay? Show the number sentence you used.



- 2. What if you rented the system for 6 hours? For 8 hours? Write the number sentence for each case.
- **3.** Which part of your number sentence keeps changing? What does it represent?

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- **4.** How could you write a math sentence about this problem using the letter *x* to hold the place for the number of hours?
- **5.** Is the number of hours the only thing that changes? If not, what else changes?

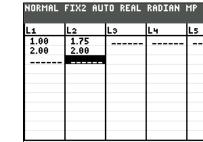
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**6.** Now, write a math sentence using *y* to hold the place of the total cost.

### Part 2 - Creating a Graph

Now, let's enter several *x*- and *y*-values into lists to create a scatter plot.

7. Enter the x-values in L1 and the y-values in L2 for x-values of 1, 2, 3, 4, 5, and 10. List the ordered pairs.



L2(3)=



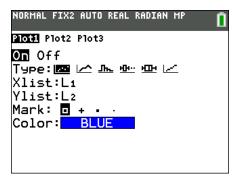
## The Variables of Renting

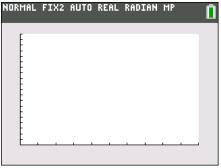
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**8.** Set up a scatter plot as shown at the right. Then press GRAPH and draw the scatter plot you create of all the ordered pairs.

9.	Draw a line to connect all the ordered pairs. What does
	this line represent?





#### Part 3 - Change That Shape

Finally, look at the equation that can model our rental scenario.

**10.** Enter the math sentence you wrote in Question 6 into Y1 (press Y=), and then graph (press GRAPH). How does the graph of the equation compare to the line drawn in Question 9?

11. Look at a table of the function values. Press 2nd [TBLSET] and set up the table as shown at the right. Press 2nd [TABLE] to see the actual table of function values. How do these values compare to the list of ordered pairs from Question 7?



**12.** Use the Trace feature to trace both the scatter plot and the function. Use the words continuous and discrete to describe the differences between the two.