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． $\qquad$
You can enter the number sentence on the TI－84 Plus to perform the calculation．For 4 hours，you would press $0 \square$ 国区 4 田 $\square 5$ ．Press ENTER to display the result．

NORMAL FLOAT AUTO REAL RADTAN MP
$0.25 * 4+1.50$

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？

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？

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 L 1 and the y －values in L 2 for $x$－ values of $1,2,3,4,5$ ，and 10 ．List the ordered pairs．
$\qquad$
$\qquad$

| NORMAL | FIX2 | T0 REfL | RADIfiN | MP | П |
| :---: | :---: | :---: | :---: | :---: | :---: |
| L1 | L2 | L3 | L4 | L5 | 2 |
| $\begin{aligned} & 1.00 \\ & 2.00 \end{aligned}$ | 1.75 2.80 | －－ | －－－－－－ | －－ |  |
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| L2（3）$=$ |  |  |  |  |  |
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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? $\qquad$


## 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 Y 1 (press $\Psi=$ ), and then graph (press (GRAPH). How does the graph of the equation compare to the line drawn in Question 9 ?
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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?
MORMAL FIX2 AUTO REAL RADIAN MP
TABLE SETUP
TblStart $=0$
©Tbl=1
Indpnt: Auto Ask
Depend: Rutd Ask
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.
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