

TI-Nspire Technology Lesson

Unit 4: Interpolating and Extrapolating

On your calculator, press  > **7: My Documents**, then open file **u04_199**.

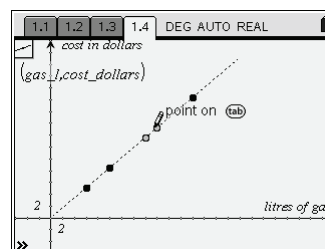
Interpolating and Extrapolating

The data on page 1.3 represents the cost of gas for 5 customers at a gas station. It is graphed on page 1.4.

1.1	1.2	1.3	1.4	DEG AUTO REAL
gas_l	cost_dollars			
1	6	5.1		
2	10	8.5		
3	16	13.6		
4	18	15.3		
5	24	20.4		
A1	6			

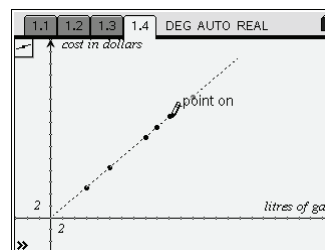
1. Construct a line through the data.

- Press , then select **6: Points & Lines > 4: Line**.
- Click on 2 data points.



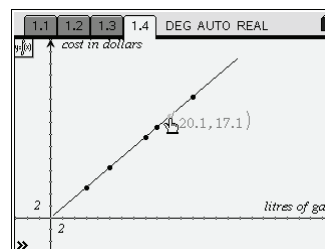
2. Construct a point on the line.

- Press , then select **6: Points & Lines > 2: Point On**.
- Click on the line.



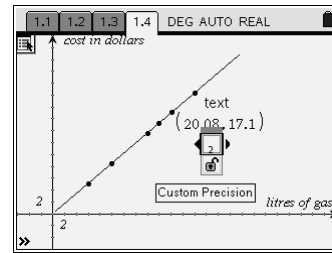
3. Display the coordinates of the point.

- Press , then select **1: Actions > 7: Coordinates and Equations**.
- Double-click on the point.



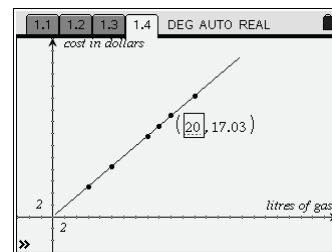
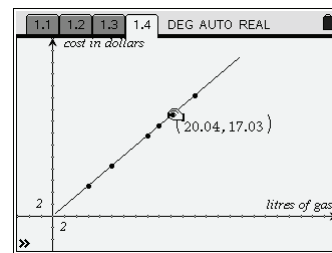
4. Adjust the number of decimal places displayed.

- Press **[menu]**, then select **1: Actions > 4: Attributes**.
- Click on the x -coordinate of the point.
- Press the left arrow once to set the custom precision to 2, then press **[enter]**.
- Click on the y -coordinate of the point.
Set the custom precision to 2, then press **[enter]**.
- Press **[esc]**.



5. Determine the cost of 20 L of gas.

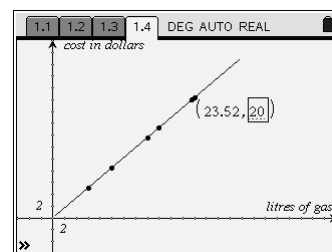
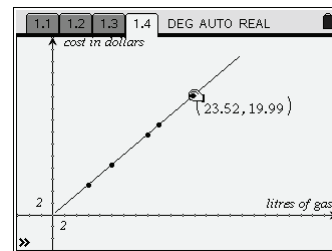
- Method 1:*
Drag the point until the x -coordinate is close to 20.
Press **[esc]** to release the point.
- Method 2:*
Triple-click on the x -coordinate of the point, then change its value to 20 and press **[enter]**.



The cost of 20 L of gas is: **\$17.00**

6. Determine the volume of gas that can be bought for \$20.00.

- Method 1:*
Drag the point until the y -coordinate is close to 20.
- Method 2:*
Change the y -coordinate to 20.

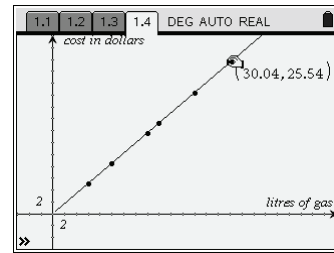


The volume of gas that can be purchased for \$20.00 is:

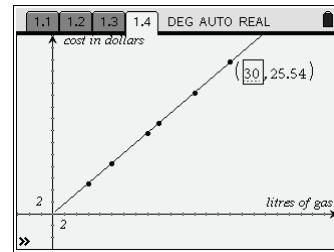
About 23.5 L

7. Determine the cost of 30 L of gas.

- *Method 1:*
Drag the point until the x -coordinate is close to 30.



- *Method 2:*
Change the x -coordinate to 30.



The cost of 30 L of gas is: **\$25.50**

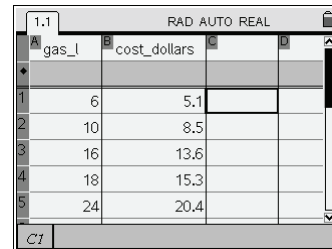
Additional Teacher Notes

To insert a lists & spreadsheet page:

- Press  > **3: Lists & Spreadsheet**.

To enter data:

- In the first row of a spreadsheet, enter the names for the data, then press .
- Move among the cells in the spreadsheet by pressing the arrow keys on the navigation pad.
- Enter the data, beginning in row 1.



	gas_l	cost_dollars
1	6	5.1
2	10	8.5
3	16	13.6
4	18	15.3
5	24	20.4

Technology Tips:

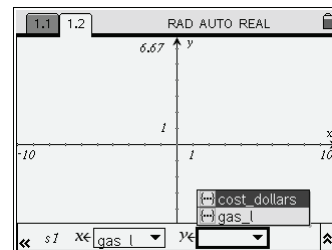
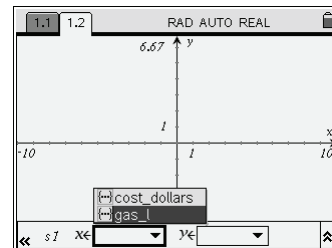
- To enter an underscore (_), press  .
- To change the width of a column in a spreadsheet, press , then select **1: Actions > 2: Resize > 1: Resize Column Width**. Press  and  to adjust the width of the column. When you are done, press .

To insert a graphs & geometry page:

- Press  > **2: Graphs & Geometry**.

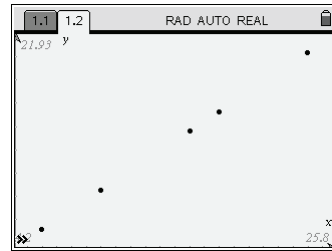
To graph data:

- In a graphs & geometry page, press , then select **3: Graph Type > 4: Scatter Plot**.
- Click to choose the x-values.
Select the desired data, then click again or press .
- Press , then click to choose the y-values.
Select the desired data, then click again or press .
- Press  **G** to hide the row at the bottom of the page.

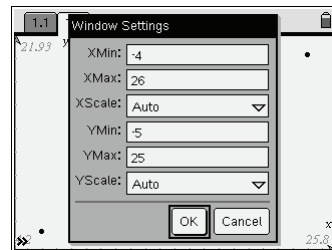


To adjust the viewing window:

- *Method 1:*
Press **(menu)**, then select **4: Window > 9: Zoom – Data** to view all the data.



- *Method 2:*
Press **(menu)**, then select **4: Window > 1: Window Settings**.
Change the values in each row.
Press **(tab)** to move from one row to the next.



To read the scale on a graph:

- The number to the right of the origin indicates the scale of the x -axis. For example, on this graph, the tick marks along the x -axis increase by 2.
- The number above the origin indicates the scale of the y -axis. For example, on this graph, the number above the origin indicates that the tick marks along the y -axis increase by 2.

