1.2 Straight Lines

To graph a function, such as a line:

\[ Y = \] and enter the equation as Y1. Note that the equation must be solved for \( y \) before it can be entered.

ZOOM and choose 6: ZStandard

To create a scatter plot:

STAT and choose 1: Edit
Enter the first row/column of data in L1 and the second row/column in L2.
2ND STAT PLOT and choose 1: Plot1.
Press Enter to select On.
Make sure Type shows the first choice, Xlist: L1 and Ylist: L2.
ZOOM and choose 9: ZoomStat
Look at WINDOW to see the scale.

To find a point on the graph of a function, such as a trend line:

\[ Y = \] and enter the equation of the function.
GRAPH
If you are graphing a trend line, your scatter plot should now have a line through it.
TRACE
Type the \( x \)-coordinate of the point you are looking for. This jumps the cursor to the point on the line with your \( x \)-coordinate. Look at the bottom of the screen to see the corresponding \( y \)-coordinate.

1.4 Finding the Point of Intersection

To find a point of intersection, such as a break-even or equilibrium point:

\[ Y = \] and enter the two equations (supply and demand or cost and revenue) as Y1 and Y2.
WINDOW and choose appropriate values.
GRAPH
2nd CALC and choose 5: intersect. Follow the prompts by moving the cursor left or right with the arrow keys.
1.5 The Method of Least Squares

To find the least-squares or regression line:

- Press STAT and choose 1: Edit
- Enter the first row/column of data in L1 and the second row/column in L2.
- Press STAT then right arrow to the CALC menu. Choose 4: LinReg(ax+b)
- You are now on the home screen, with “LinReg(ax+b)” showing.
- Press VARS then right arrow to Y-VARS, choose 1: Function and 1: Y1.
- You are now on the home screen, with “LinReg(ax+b) Y1” showing.
- Press ENTER

Your home screen should now show:

```
LinReg
y=ax+b
a= [number]
b= [number]
r²= [number]
r= [number]
```

The equation of the line will also be stored as Y1 in the \( Y = \) menu.

If you are missing the \( r \) and \( r^2 \) values:

- Press 2nd CATALOG then D and scroll down to DiagnosticOn.
- Press ENTER twice.
- Repeat the Linear Regression steps.