



CASIO

eLearning Activities

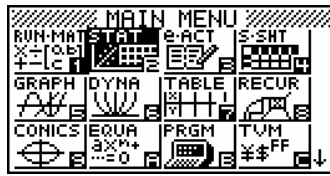


Scatterplots

EXAMPLE: Draw a scatter plot of the data below.
 Draw a trend line. Write its equation.
 Estimate the number of cable TV subscribers in 2005.

Year	1980	1985	1990	1995
Millions of Subscribers	17.7	39.9	54.9	63.0

1) **MENU**



2) Highlight **STAT** and **EXE**

3) In List 1 type

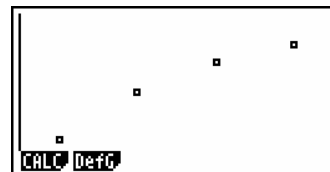
1 9 8 0 EXE 1 9 8 5 EXE 1 9 9 0 EXE 1 9 9 5 EXE

4) Push **▶** **Right arrow key**

5) In List 2 type

1 7 . 7 EXE 3 9 . 9 EXE 5 4 . 9 EXE 6 3 . 0 EXE

6) Push **F6**, **F1** **GPH**, **F1** **GPH1**



7) Your screen should look like this

8) Push **F1** **CALC**

9) Push **F2** **x**

```

LinearReg
a =3.018
b =-5954.4
r =0.97886046
r^2=0.9581678
MSe=24.8535
y=ax+b
COPY DRAW

```

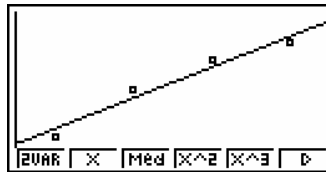
10) Your screen will look like this:

11) Push **F5** Copy

12) The prediction equation is: $y = 3.018x - 5954.4$

13) Push **F5** Exit

14) Push **F6** Draw



15) Your screen should look like this:

16) To **predict** the number of cable TV subscribers in 2005, use the prediction equation. Since the years were put in List 1 (which represents x), substitute 2005 in for x and solve for y .

$$y = 3.018x - 5954.4$$

17) $y = 3.018(2005) - 5954.4$

$$y = 96.69$$

18) There will be an estimated 96.7 million cable TV subscribers in 2005.

Practice Problems

1) A 2-mile cab ride costs \$5.25. A 5-mile cab ride costs \$10.50. How much does a 3.8-mile cab ride cost?

ANSWER: The prediction equation is : $y = 1.75x + 1.75$

Substitute 3.8 in for x : $y = 1.75(3.8) + 1.75$
 $y = 8.4$

A 3.8-mile cab ride costs \$8.40

- 2) The table below shows the average daily energy requirements for male children and adolescents.

Age (yrs.)	1	2	5	8	11	14	17
Energy needed (calories)	1100	1300	1800	2200	2500	2800	3200

Graph the data. Model the data with a linear equation.

Estimate the daily energy requirements for a male 16 years old.

ANSWER: The prediction equation is $y = 127.34x + 1073.44$

Substitute 16 in for x :

$$y = 127.34(16) + 1073.44$$
$$y = 3110.88$$

A 16 year old needs approximately 3111 calories daily.