

**Example**      Input the two sets of data shown below and plot the data on a scatter diagram. Next, perform logarithmic regression on the data to display the regression parameters, and then draw the corresponding regression graph.

0.5, 1.2, 2.4, 4.0, 5.2 (xList)  
 -2.1, 0.3, 1.5, 2.0, 2.4 (yList)

- ① **MENU** STAT
- ② **0** **.** **5** **EXE** **1** **.** **2** **EXE** **2** **.** **4** **EXE** **4** **EXE** **5** **.** **2** **EXE** **▶**  
**(←)** **2** **.** **1** **EXE** **0** **.** **3** **EXE** **1** **.** **5** **EXE** **2** **EXE** **2** **.** **4** **EXE**  
**F1**(GRPH) **F6**(SET) **▼** **F1**(Scat) **EXIT** **F1**(GPH1)
- ③ **F1**(CALC) **F6**(▷) **F2**(Log)
- ④ **F6**(DRAW)

```

LogReg
a =-0.4546843
b =1.87475856
r =0.98216271
r²=0.9646436
MSe=0.15495531
y=a+b·lnx
COPY DRAW
  
```



- You can perform trace on a regression graph. You cannot perform trace scroll.
- Input a positive integer for frequency data. Other types of values (decimals, etc.) cause an error.

## ■ Selecting the Regression Type

After you graph paired-variable statistical data, you can use the function menu at the bottom of the display to select from a variety of different types of regression.

- **{ $ax+b$ }/**{ $a+bx$ }/**{Med}/**{ $X^2$ }/**{ $X^3$ }/**{ $X^4$ }/**{Log}/**{ $ae^{bx}$ }/**{ $ab^x$ }/**{Pwr}/**{Sin}/**{Lgst} ...  
 {linear regression ( $ax+b$  form)}/**{linear regression ( $a+bx$  form)}/**{Med-Med}/**{quadratic regression}/**{cubic regression}/**{quartic regression}/**{logarithmic regression}/**{exponential regression ( $ae^{bx}$  form)}/**{exponential regression ( $ab^x$  form)}/**{power regression}/**{sinusoidal regression}/**{logistic regression} calculation and graphing**
- **{2VAR}**... {paired-variable statistical results}

## ■ Displaying Regression Calculation Results

Whenever you perform a regression calculation, the regression formula parameter (such as  $a$  and  $b$  in the linear regression  $y = ax + b$ ) calculation results appear on the display. You can use these to obtain statistical calculation results.

Regression parameters are calculated as soon as you press a function key to select a regression type, while a graph is on the display.

The following parameters are used by linear regression, logarithmic regression, exponential regression, and power regression.

- $r$  ..... correlation coefficient
- $r^2$  ..... coefficient of determination
- $MSe$  ..... mean square error