



Graphing Calculator

A Follow-Up of Lesson 5-7

TI-73

Regression and Median-Fit Lines

One type of equation of best-fit you can find is a linear **regression equation**.

EARNINGS The table shows the average hourly earnings of U.S. production workers for selected years.

Year	1960	1965	1970	1975	1980	1985	1990	1995	1999
Earnings	\$2.09	2.46	3.23	4.53	6.66	8.57	10.01	11.43	13.24

Source: Bureau of Labor Statistics

Find and graph a linear regression equation. Then predict the average hourly earnings in 2010.

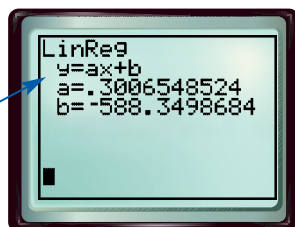
Step 1 Find a regression equation.

- Enter the years in L1 and the earnings in L2.
KEYSTROKES: Review entering a list on page 204.

- Find the regression equation by selecting LinReg($ax+b$) on the STAT CALC menu.

KEYSTROKES: $\boxed{2nd}$ $\boxed{[STAT]}$ $\boxed{\blacktriangleright}$ $\boxed{\blacktriangleright}$ $\boxed{\blacktriangleright}$ $\boxed{5}$ \boxed{ENTER}

The equation is in the form $y = ax + b$.



The equation is about $y = 0.30x - 588.35$.

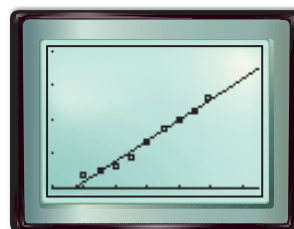
Step 2 Graph the regression equation.

- Use STAT PLOT to graph the scatter plot.
KEYSTROKES: Review statistical plots on page 204.

- Copy the equation to the Y= list and graph.

KEYSTROKES: $\boxed{Y=}$ $\boxed{2nd}$ $\boxed{[VARS]}$ $\boxed{3}$ $\boxed{\blacktriangleright}$ $\boxed{\blacktriangleright}$

$\boxed{1}$ \boxed{GRAPH}



$\boxed{[1950, 2020]}$ $\boxed{scl: 10}$ by $\boxed{[0, 20]}$ $\boxed{scl: 5}$

Step 3 Predict using the regression equation.

- Use a table to find y when $x = 2010$.

KEYSTROKES: $\boxed{2nd}$ $\boxed{[TBLSET]}$ $\boxed{\blacktriangledown}$ $\boxed{\blacktriangledown}$ $\boxed{\blacktriangleright}$ \boxed{ENTER}

$\boxed{2nd}$ $\boxed{[TABLE]}$ $\boxed{2010}$ \boxed{ENTER}

According to the regression equation, the average hourly earnings in 2010 will be about \$15.97.

