## Analyzes the data table by linear regression and draws the chart.

Linear regression: y=A+Bx

(input by clicking each cell in the table below)

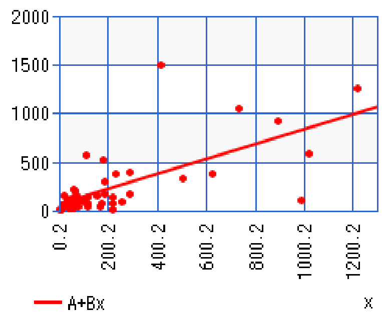
data

| No. | x | y |
|---|---|---|
| 1 | 94.4 | 115 |
| 2 | 1 | 14 |
| 3 | 65 | 111 |
| 4 | 58 | 39 |
| 5 | 256 | 96 |
| 6 | 56 | 231 |
| 7 | 736 | 1050 |
| 8 | 504 | 341 |
| 9 | 985 | 105 |
| 10 | 187 | 175 |
| 11 | 220 | 12 |
| 12 | 22 | 44 |
| 13 | 228 | 385 |
| 14 | 188 | 298 |
| 15 | 57 | 148 |
| 16 | 36 | 72 |
| 17 | 114 | 88 |
| 18 | 108 | 579 |
| 19 | 44 | 59 |
| 20 | 627 | 386 |
| 21 | 894 | 931 |
| 22 | 178 | 525 |
| 23 | 72 | 158 |
| 24 | 64 | 213 |
| 25 | 90 | 113 |
| 26 | 7 | 15 |
| 27 | 25 | 78 |
| 28 | 29 | 129 |
| 29 | 153 | 154 |
| 30 | 1215 | 1260 |
| 31 | 17 | 153 |
| 32 | 413 | 1507 |
| 33 | 218 | 76 |
| 34 | 11 | 71 |
| 35 | 288 | 171 |
| 36 | 58 | 79 |
| 37 | 45 | 35 |
| 38 | 287 | 405 |
| 39 | 1021 | 598 |
| 40 | 173 | 85 |
| 41 | 12 | 57 |
| 42 | 167 | 49 |
| 43 | 113 | 53 |
| 44 | 40 | 31 |
| 45 | 68 | 87 |
| 46 | 218 | 145 |
| 47 | 117 | 143 |
| | | |

| | | |
|---|---|---|
| **48** | 74 | 41 |
| **49** | 108 | 88 |
| **50** | 6 | 21 |

Execute Clear Store/Read Print 10digit

| function | value |
|---|---|
| **mean of x** | 215.348 |
| **mean of y** | 236.38 |
| **correlation coefficient r** | 0.6825205737 |
| **A** | 71.45877018 |
| **B** | 0.765835902 |




Guidelines for interpreting correlation coefficient r :

0.7＜|r|≦1 strong correlation
0.4＜|r|＜0.7 moderate correlation
0.2＜|r|＜0.4 weak correlation
0≦|r| ＜ 0.2 no correlation

*Linear regression*

$(1)\ mean:\ \bar{x} = \frac{\sum x_i}{n},\quad \bar{y} = \frac{\sum y_i}{n}$

$(2)\ trend\ line:\ y = A + Bx,\quad B = \frac{Sxy}{Sxx},\quad A = \bar{y} - B\bar{x}$

$(3)\ correlation\ coefficient:\ r = \frac{S_{xy}}{\sqrt{S_{xx}}\sqrt{S_{yy}}}$

$$S_{xx} = \sum(x_i - \bar{x})^2 = \sum x_i^2 - n \cdot \bar{x}^2$$
$$S_{yy} = \sum(y_i - \bar{y})^2 = \sum y_i^2 - n \cdot \bar{y}^2$$
$$S_{xy} = \sum(x_i - \bar{x})(y_i - \bar{y}) = \sum x_i y_i - n \cdot \bar{x}\bar{y}$$