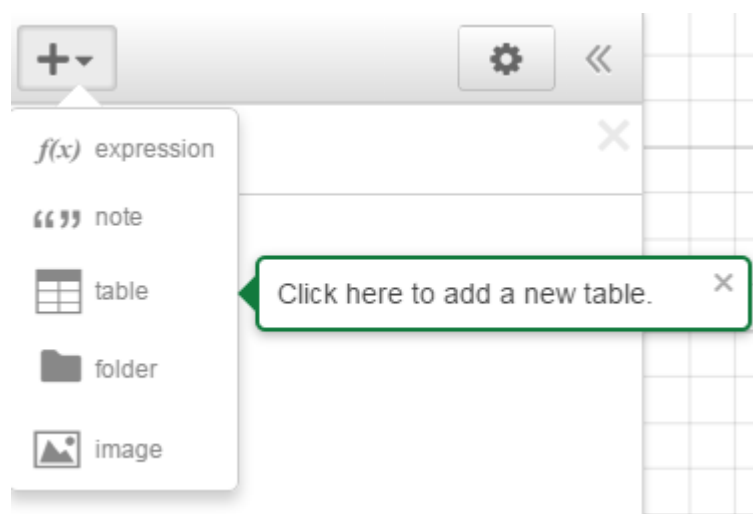


## Desmos Graphing Calculator and Linear Regression

You can use the free online Desmos Graphing Calculator to produce a scatterplot and find the regression line and correlation coefficient.

Go to <https://www.desmos.com/calculator> and launch the calculator.

Select "table" from the menu at the upper left.



Data for Project Example (Men's 400 Meter Dash) has been entered.

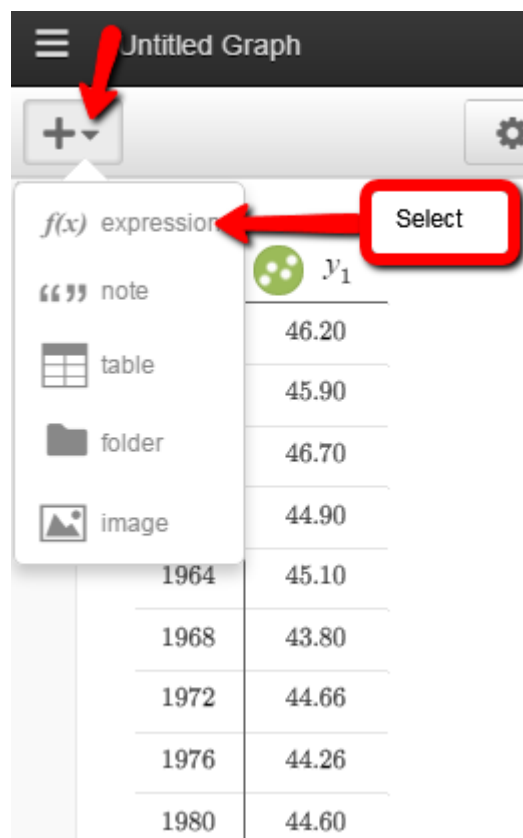
Regression help can be accessed via the "?" icon.

The screenshot shows the Desmos calculator interface. The browser address bar displays <https://www.desmos.com/calculator>. The page title is "Untitled Graph". The Desmos logo is visible. In the top right corner, there are links for "Create Account" and "Sign In", and a question mark icon. A red box highlights the question mark icon with the text "Can click ? and choose Regressions help". A red arrow points from this box to the question mark icon. On the left side, a data table is displayed with columns  $x_1$  and  $y_1$ . A red box highlights the table with the text "Data set has been entered". A red arrow points from this box to the table. The data table is as follows:

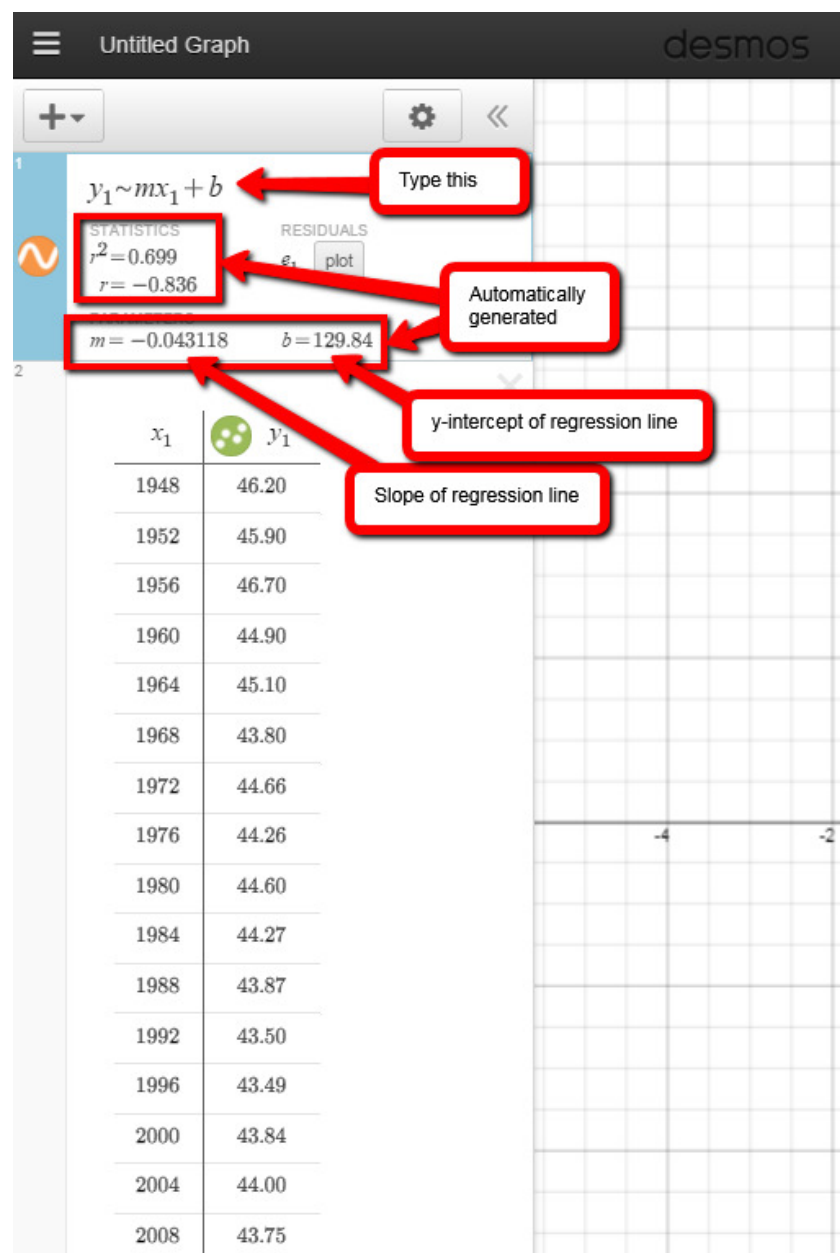
$x_1$	$y_1$
1948	46.20
1952	45.90
1956	46.70
1960	44.90
1964	45.10
1968	43.80
1972	44.66
1976	44.26
1980	44.60
1984	44.27
1988	43.87
1992	43.50
1996	43.49
2000	43.84
2004	44.00
2008	43.75

On the right side, a sidebar menu is visible. It includes sections for "Tours" (Sliders, Tables, Restrictions, Regressions), "Resources" (Desmos User Guide, Help Center), and "Feedback" (Tweet @desmos, Tell us on Facebook). A red arrow points from the question mark icon to the "Regressions" option in the "Tours" section.

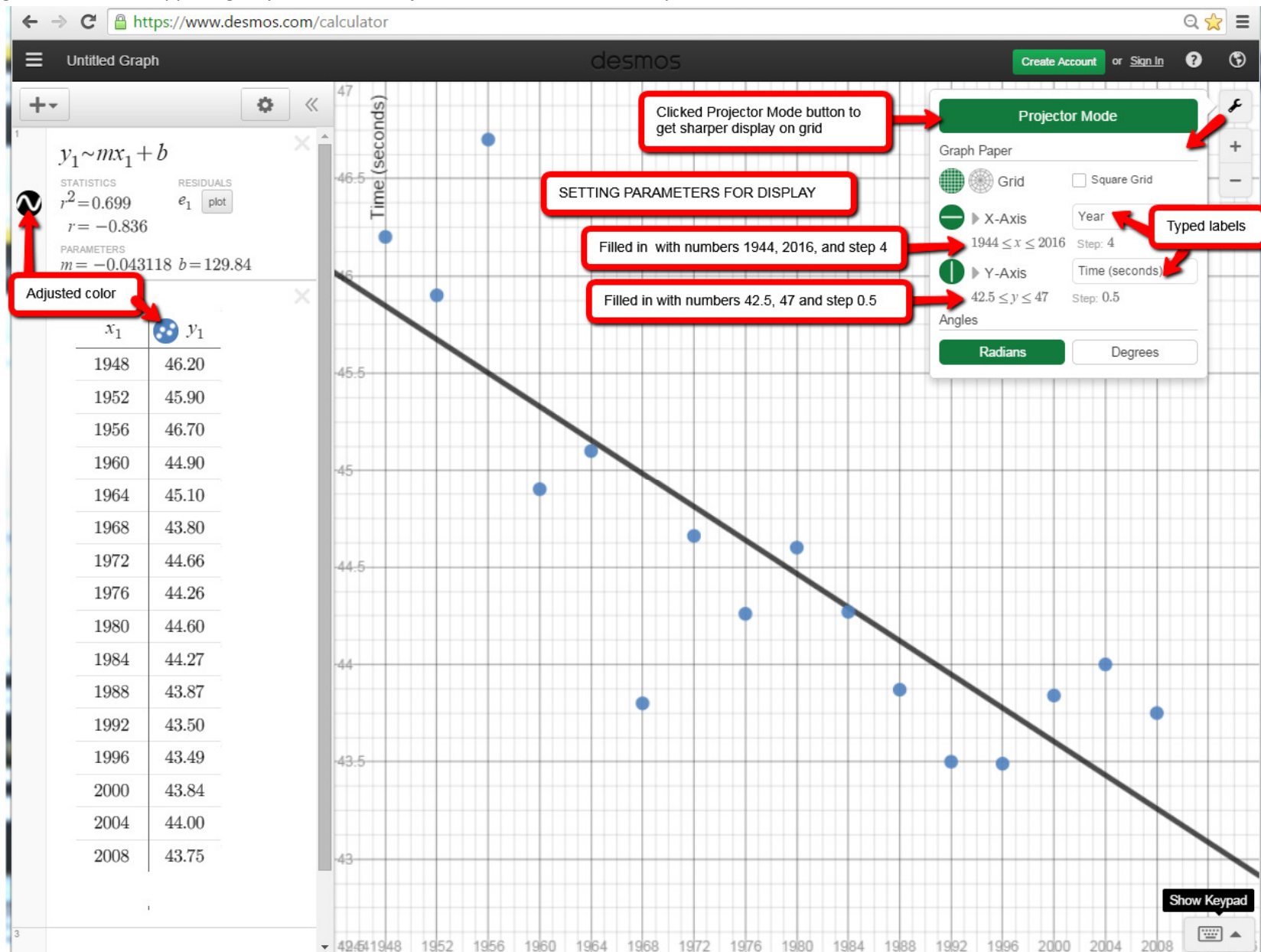
Select "expression" from the menu at the upper left.



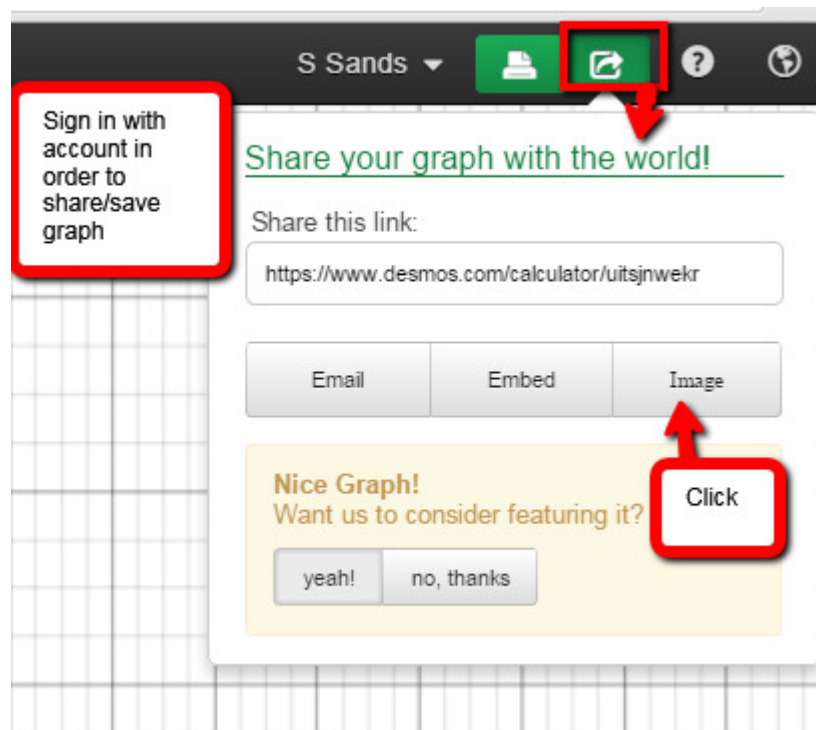
Type  $y_1 \sim mx_1 + b$  and the values of  $r^2$ ,  $r$ ,  $m$ , and  $b$  automatically appear.



Selecting the tool at the upper right, you can then adjust the scales on the x and y axes and create labels.



You can give your graph a name. In order to save your graph, sign in with a free account and click the share button. If you share the given link, then by following the link, the graph can be opened and manipulated. If you click the Image button, then you can save the graph as a file.



After clicking the Image button, you can view the graph as a stand-alone image, and select from several options to save.

