

Exercise 42

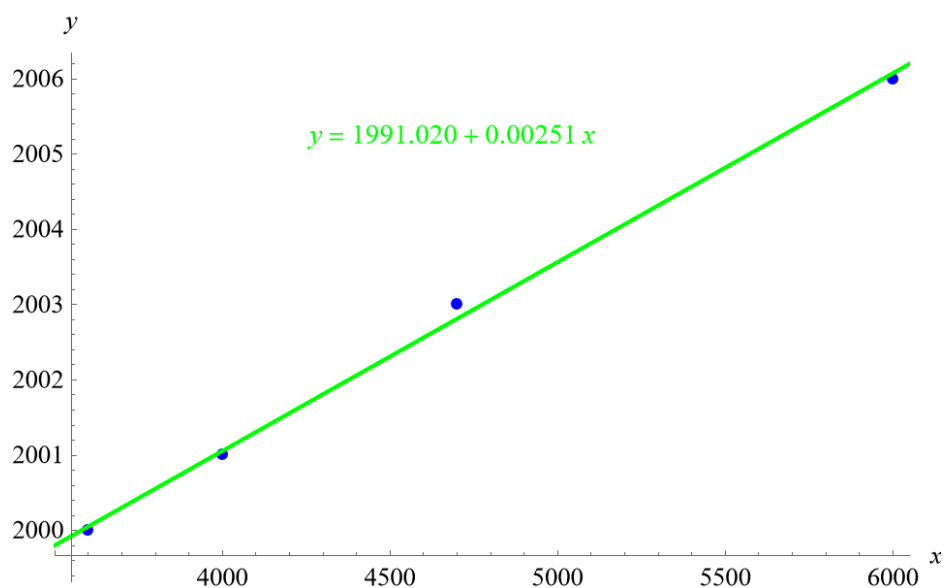
For the following exercises, consider this scenario: The population of a city increased steadily over a ten-year span. The following ordered pairs show the population and the year over the ten-year span (population, year) for specific recorded years:

$$(3,600, 2000); (4,000, 2001); (4,700, 2003); (6,000, 2006)$$

Use linear regression to determine a function y , where the year depends on the population, to three decimal places of accuracy.

Solution

Plot the following points: (3600, 2000), (4000, 2001), (4700, 2003), and (6000, 2006).



Mathematica's FindFit function gives

$$y = 1991.020 + 0.00251x$$

for the line of best fit.