# Exercise 31

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

$$(4{,}500, 2000); (4{,}700, 2001); (5{,}200, 2003); (5{,}800, 2006)$$

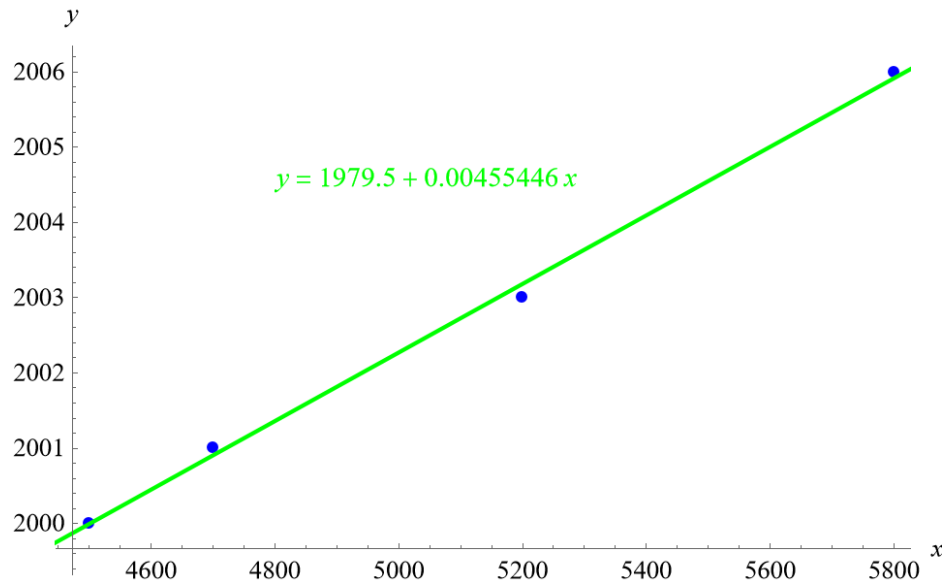
Use linear regression to determine a function $y$, where the year depends on the population. Round to three decimal places of accuracy.

[TYPO: Replace "shows" with "show."]

---

**Solution**

Draw the following points on a graph: $(4500, 2000)$, $(4700, 2001)$, $(5200, 2003)$, $(5800, 2006)$.




Mathematica's FindFit function gives

$$y = 1979.500 + 0.00455x$$

as the line that best fits the data.