

Population The table shows the populations P (in millions) of the United States for selected years from 1790 through 2010. The data can be approximated by the model

$$P = 0.00676t^2 - 0.1280t + 6.515, \quad 0 \leq t \leq 220$$

where t is the year, with $t = 0$ corresponding to 1790. (Data Source: U.S. Census Bureau)

	Year	Population, P
Spreadsheet at LarsonPrecalculus.com	1790	3.929
	1800	5.308
	1810	7.240
	1820	9.638
	1830	12.866
	1840	17.069
	1850	23.192
	1860	31.443
	1870	39.818
	1880	50.189
	1890	62.980
	1900	76.212
	1910	92.228
	1920	106.022
1930	123.203	
1940	132.165	
1950	151.326	
1960	179.323	
1970	203.302	
1980	226.542	
1990	248.718	
2000	281.425	
2010	308.746	

- Use a graphing utility to plot the data and graph the model in the same viewing window.
- Judging from the graph, would you say that the model is a good representation of the population? Explain your reasoning.
- Use the model to find when the population of the United States reached 50 million, 100 million, and 200 million. Verify your answers using your graph from part (a).
- Use the model to find when the population will exceed 330 million. Does your answer seem reasonable?
- Use the Internet to determine whether the current U.S. population is over 330 million. Compare your answer with the result of part (d).