## Spring 2021 Free Response Chapter 06.04 Nonlinear Regression

The population for a small community is given as a function of time in years.

t (years)	0	5	10
Population, <i>p</i>	100	165	314

By minimizing the sum of the square of the residuals and **without** data transformation, the model is regressed to  $p = ae^{bt}$ , where *a* and *b* are constants of the model. The value of *b* was found to be 0.1199. Now find the value of *a*.

Answer: *a*=94.136