Population missing

A new disease that doctors have never seen has affected a population of 500 people. Approximately one-third of the population dies from the disease each year. Simulate this situation using this <u>website</u>.

How will we simulate this experiment? Roll 500 dice. Every time you roll a 2 or a 4 remove them from your initial population (one-third of the population). Continue this simulation until you are left with 2 people. Use your scatter plot and ExpReg to calculate a function for the population of this town.

Years since	Number of	How to simulate:
disease affected	people	1. Go to the website
the town	surviving	(<u>http://syzygy.virtualave.net/webwork/javascript/d</u>
0	500	<u>iceroll.htm</u>)
		 Simulate rolling 500 dice. Scroll to find how many 2's and 4's were rolled. Remove this total from 500 and place in chart. Click on "Close This Window" and roll dice again with the number of survivors Count the 2's and 4's again and remove total from the number of remaining survivors from step 4 Continue until you have 2 people left.

Function describing the population:

What is the real life meaning of the *a* value?

What is the real life meaning of the *b* value?

Are the values of *a* and *b* what you would have expected?