Algebra 1 9b Homework

Exponential patterns of change happen in all sorts of situations. For example, when bacteria infect some part of your body, they grow and split into two genetically equivalent cells again and again.

Suppose a single bacterium lands in a cut on your hand. It begins spreading an infection by growing and splitting into two bacteria every 20 minutes.

1. Make a table showing the number of bacteria after each 20-minute period in the first   
   three hours. (Assume none of the bacteria are killed by white blood cells.)
2. Plot the data (*x=number of 20 minute time periods, y=bacteria count*)

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1. Describe the pattern of growth for the population of bacteria causing the infection.
2. Create a Next,Now equation for the (i.e. Next = Now (+\*-/) something).
3. Create a y,x equation (i.e. ‘y = ‘).
4. Use either equation to find the number of bacteria after fifteen 20-minute periods   
   (5 hours).

How many bacteria would there be after 24 hours?