

## APP-2 Exponential Growth/Decay

(complete all parts for M, complete 2 of 3 parts for P)

Bob is working in a lab testing bacteria populations. After starting out with a population of 500 bacteria. He observes the change in population and notices that every 18 minutes the population increases by 4%.

Leave answers as integers, simplified fractions, or in terms of natural logarithms.

a) If  $A(t) = A_0a^t$  Find the value for  $a$

b) How many bacteria will there be after  $4\frac{1}{2}$  hours?