Samples **Exponential growth**

1. Populations of bacteria (and indeed many other organisms) exhibit population growth that can be modelled using continuous compounding. The rate of population growth depends on such factors as fertility, temperature, level of interactions and so on.

A certain type of bacterium has a population growth rate of 0.06 per hour. If there are 100 million bacteria in a petri dish at time 0, how many will there be after 12 hours? (Give your answer in millions, rounded to two decimal places.)

2. Populations of bacteria (and indeed many other organisms) exhibit population growth that can be modelled using continuous compounding. The rate of population growth depends on such factors as fertility, temperature, level of interactions and so on.

A certain type of bacterium has a population growth rate of 0.06 per hour. If there are 100 million bacteria in a petri dish at time 0, how many will there be after 14 hours? (Give your answer in millions, rounded to two decimal places.)

3. Populations of bacteria (and indeed many other organisms) exhibit population growth that can be modelled using continuous compounding. The rate of population growth depends on such factors as fertility, temperature, level of interactions and so on.

A certain type of bacterium has a population growth rate of 0.07 per hour. If there are 500 million bacteria in a petri dish at time 0, how many will there be after 5 hours? (Give your answer in millions, rounded to two decimal places.)