**1A Exponential Models**

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| $$t$$ | 3 | 5 | 6 | 8 | 9 | 11 |
| $$g$$ | 1.04 | 1.49 | 1.79 | 2.58 | 3.1 | 4.46 |

1. The table above shows some data collected on the temperature, in °C, of a colony of bacteria (t), and its growth rate (g).

The data are coded using the changes of variable $x=t$ and $y=logg$. The regression line of $y$ on $x$ is found to be:

 $y=-0.2215+0.0792x$

1. Mika says that the constant -0.2215 in the regression line means that the colony is shrinking when the temperature is 0°C. Explain why Mika is wrong.
2. Given that the data can be modelled by an equation of the form $g=kb^{t}$, where $k$ and $b$ are constants, find the values of $k$ and $b$.