mobius

Exponential Function Solution Equation - Decay (Continuous) - Equation to Time

1 Rearrange this equation to solve for the time given this model of a continuous reduction of a toxin concentration?

$$250 = 300 \cdot e^{(-0.09 \cdot t)}$$

A	$t = -\dfrac{0.09}{\ln \frac{250}{300}}$	B	$t = -\dfrac{\ln \frac{250}{300}}{0.09}$
C	$t = +\dfrac{\ln 250 \cdot 300}{0.09}$		

2 Rearrange this equation to solve for the time given this model of a continuous reduction of a toxin concentration?

$$139 = 200 \cdot e^{(-0.09 \cdot t)}$$

A	$t = -\dfrac{0.09}{\ln \frac{139}{200}}$	B	$t = -\dfrac{\ln \frac{139}{200}}{0.09}$

3 Rearrange this equation to solve for the time given this model of a a continuously declining bacteria population?

$$433 = 700 \cdot e^{(-0.08 \cdot t)}$$

A	$t = -\dfrac{0.08}{\ln \frac{433}{700}}$	B	$t = -\dfrac{\ln \frac{433}{700}}{0.08}$

4 Rearrange this equation to solve for the time given this model of a continuous decline of a bird population?

$$281 = 400 \cdot e^{(-0.05 \cdot t)}$$

A	$t = -\dfrac{\ln \frac{281}{400}}{0.05}$	B	$t = +\dfrac{\ln 281 \cdot 400}{0.05}$
C	$t = -\dfrac{0.05}{\ln \frac{281}{400}}$		

5 Rearrange this equation to solve for the time given this model of a continuous decay of a radioactive material?

$$163 = 200 \cdot e^{(-0.04 \cdot t)}$$

A	$t = +\dfrac{\ln 163 \cdot 200}{0.04}$	B	$t = -\dfrac{\ln \frac{163}{200}}{0.04}$

6 Rearrange this equation to solve for the time given this model of a a continuously declining bacteria population?

$$276 = 300 \cdot e^{(-0.04 \cdot t)}$$

A	$t = -\dfrac{0.04}{\ln \frac{276}{300}}$	B	$t = -\dfrac{\ln \frac{276}{300}}{0.04}$

7 Rearrange this equation to solve for the time given this model of a continuous decline of a bird population?

$$235 = 300 \cdot e^{(-0.04 \cdot t)}$$

A	$t = -\dfrac{\ln \frac{235}{300}}{0.04}$	B	$t = +\dfrac{\ln 235 \cdot 300}{0.04}$

8 Rearrange this equation to solve for the time given this model of a continuous decay of a radioactive material?

$$514 = 900 \cdot e^{(-0.07 \cdot t)}$$

A	$t = -\dfrac{\ln \frac{514}{900}}{0.07}$	B	$t = -\dfrac{0.07}{\ln \frac{514}{900}}$