



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

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

$$116 = 200 \cdot e^{(-0.09 \cdot t)}$$

A $t = -\frac{0.09}{\ln \frac{116}{200}}$

B $t = -\frac{\ln \frac{116}{200}}{0.09}$

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

$$174 = 300 \cdot e^{(-0.06 \cdot t)}$$

A $t = +\frac{\ln 174 \cdot 300}{0.06}$

B $t = -\frac{0.06}{\ln \frac{174}{300}}$

C $t = -\frac{\ln \frac{174}{300}}{0.06}$

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

$$532 = 600 \cdot e^{(-0.03 \cdot t)}$$

A $t = -\frac{\ln \frac{532}{600}}{0.03}$

B $t = -\frac{0.03}{\ln \frac{532}{600}}$

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

$$324 = 400 \cdot e^{(-0.03 \cdot t)}$$

A $t = +\frac{\ln 324 \cdot 400}{0.03}$

B $t = -\frac{\ln \frac{324}{400}}{0.03}$

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

$$222 = 300 \cdot e^{(-0.05 \cdot t)}$$

A $t = -\frac{\ln \frac{222}{300}}{0.05}$

B $t = -\frac{0.05}{\ln \frac{222}{300}}$

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

$$646 = 700 \cdot e^{(-0.02 \cdot t)}$$

A $t = -\frac{0.02}{\ln \frac{646}{700}}$

B $t = -\frac{\ln \frac{646}{700}}{0.02}$

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

$$573 = 700 \cdot e^{(-0.05 \cdot t)}$$

A $t = +\frac{\ln 573 \cdot 700}{0.05}$

B $t = -\frac{0.05}{\ln \frac{573}{700}}$

C $t = -\frac{\ln \frac{573}{700}}{0.05}$

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

$$668 = 800 \cdot e^{(-0.06 \cdot t)}$$

A $t = -\frac{\ln \frac{668}{800}}{0.06}$

B $t = -\frac{0.06}{\ln \frac{668}{800}}$