



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

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

$$255 = 400 \cdot e^{(-r \cdot 5)}$$

A $r = -\frac{\ln \frac{255}{400}}{5}$

B $r = -\frac{e^{\frac{255}{400}}}{5}$

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

$$340 = 400 \cdot e^{(-r \cdot 8)}$$

A $r = -\frac{\ln \frac{340}{400}}{8}$

B $r = -\frac{\ln \frac{400}{340}}{8}$

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

$$847 = 900 \cdot e^{(-r \cdot 2)}$$

A $r = -\frac{e^{\frac{847}{900}}}{2}$

B $r = -\frac{\ln \frac{847}{900}}{2}$

C $r = -\frac{\ln \frac{900}{847}}{2}$

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

$$723 = 800 \cdot e^{(-r \cdot 5)}$$

A $r = -\frac{\ln \frac{723}{800}}{5}$

B $r = -\frac{\ln \frac{800}{723}}{5}$

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

$$426 = 500 \cdot e^{(-r \cdot 8)}$$

A $r = -\frac{e^{\frac{426}{500}}}{8}$

B $r = -\frac{\ln \frac{500}{426}}{8}$

C $r = -\frac{\ln \frac{426}{500}}{8}$

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

$$443 = 500 \cdot e^{(-r \cdot 6)}$$

A $r = -\frac{\ln \frac{500}{443}}{6}$

B $r = -\frac{\ln \frac{443}{500}}{6}$

C $r = -\frac{e^{\frac{443}{500}}}{6}$

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

$$736 = 900 \cdot e^{(-r \cdot 5)}$$

A $r = -\frac{\ln \frac{900}{736}}{5}$

B $r = -\frac{\ln \frac{736}{900}}{5}$

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

$$469 = 700 \cdot e^{(-r \cdot 8)}$$

A $r = -\frac{\ln \frac{469}{700}}{8}$

B $r = -\frac{\ln \frac{700}{469}}{8}$

C $r = -\frac{e^{\frac{469}{700}}}{8}$