Name

Exponential Function Solution Equation - Decay (Continuous, Mis-matched Time Units) Equation to Rate

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

$$114 = 200 \cdot e^{(-r \cdot 7 \cdot 24)}$$

A $r = -\frac{e^{\frac{114}{200}}}{7 \cdot 24}$

B $r = -\frac{\ln \frac{200}{114}}{\frac{7}{24}}$

C $r = -\frac{\ln \frac{114}{200}}{7 \cdot 24}$

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

$$610 = 800 \cdot e^{(-r \cdot 9 \cdot 4)}$$

A $r = -\frac{\ln \frac{800}{610}}{\frac{9}{4}}$

B $r = -\frac{e^{\frac{610}{800}}}{9 \cdot 4}$

C $r = -\frac{\ln \frac{610}{800}}{9 \cdot 4}$

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

$$139 = 200 \cdot e^{(-r \cdot 9 \cdot 4)}$$

A $r = -\frac{e^{\frac{139}{200}}}{9 \cdot 4}$

B $r = -\frac{\ln \frac{139}{200}}{9 \cdot 4}$

C $r = -\frac{\ln \frac{200}{139}}{\frac{9}{4}}$

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

$$382 = 600 \cdot e^{(-r \cdot 5 \cdot 4)}$$

A $r = -\frac{e^{\frac{382}{600}}}{5 \cdot 4}$

B $r = -\frac{\ln \frac{382}{600}}{5 \cdot 4}$

C $r = -\frac{\ln \frac{600}{382}}{\frac{5}{4}}$

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

$$417 = 500 \cdot e^{(-r \cdot 2 \cdot 365)}$$

A $r = -\frac{\ln \frac{417}{500}}{2 \cdot 365}$

B $r = -\frac{\ln \frac{500}{417}}{\frac{2}{365}}$

C $r = -\frac{e^{\frac{417}{500}}}{2 \cdot 365}$

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

$$106 = 200 \cdot e^{(-r \cdot \frac{9}{4})}$$

A $r = -\frac{\ln \frac{200}{106}}{9 \cdot 4}$

B $r = -\frac{\ln \frac{106}{200}}{\frac{9}{4}}$

C $r = -\frac{e^{\frac{106}{200}}}{\frac{9}{4}}$

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

$$296 = 400 \cdot e^{(-r \cdot 6 \cdot 4)}$$

A $r = -\frac{e^{\frac{296}{400}}}{6 \cdot 4}$

B $r = -\frac{\ln \frac{296}{400}}{6 \cdot 4}$

C $r = -\frac{\ln \frac{400}{296}}{\frac{6}{4}}$

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

$$610 = 800 \cdot e^{(-r \cdot 3 \cdot 24)}$$

A $r = -\frac{\ln \frac{800}{610}}{\frac{3}{24}}$

B $r = -\frac{\ln \frac{610}{800}}{3 \cdot 24}$

C $r = -\frac{e^{\frac{610}{800}}}{3 \cdot 24}$