



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?

$$433 = 700 \cdot e^{(-r \cdot 8)}$$

A	B	C
$r = -\frac{\ln \frac{433}{700}}{8}$	$r = -\frac{e^{\frac{433}{700}}}{8}$	$r = -\frac{\ln \frac{700}{433}}{8}$

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

$$446 = 700 \cdot e^{(-r \cdot 5)}$$

A	B	C
$r = -\frac{\ln \frac{700}{446}}{5}$	$r = -\frac{\ln \frac{446}{700}}{5}$	$r = -\frac{e^{\frac{446}{700}}}{5}$

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

$$344 = 400 \cdot e^{(-r \cdot 5)}$$

A	B
$r = -\frac{\ln \frac{344}{400}}{5}$	$r = -\frac{\ln \frac{400}{344}}{5}$

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

$$266 = 500 \cdot e^{(-r \cdot 9)}$$

A	B
$r = -\frac{\ln \frac{266}{500}}{9}$	$r = -\frac{\ln \frac{500}{266}}{9}$

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

$$634 = 900 \cdot e^{(-r \cdot 5)}$$

A	B	C
$r = -\frac{\ln \frac{634}{900}}{5}$	$r = -\frac{e^{\frac{634}{900}}}{5}$	$r = -\frac{\ln \frac{900}{634}}{5}$

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

$$162 = 200 \cdot e^{(-r \cdot 3)}$$

A	B	C
$r = -\frac{\ln \frac{200}{162}}{3}$	$r = -\frac{e^{\frac{162}{200}}}{3}$	$r = -\frac{\ln \frac{162}{200}}{3}$

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

$$305 = 400 \cdot e^{(-r \cdot 3)}$$

A	B
$r = -\frac{\ln \frac{305}{400}}{3}$	$r = -\frac{e^{\frac{305}{400}}}{3}$

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

$$233 = 400 \cdot e^{(-r \cdot 6)}$$

A	B
$r = -\frac{\ln \frac{233}{400}}{6}$	$r = -\frac{e^{\frac{233}{400}}}{6}$