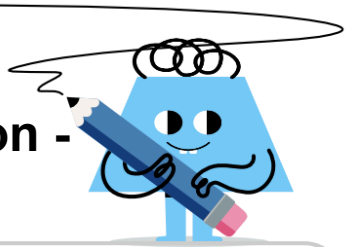
Name

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



1

A whale population starts at 700. It declines continuously at a certain percent per year. After 4 years it has decreased to a population of 550 whales.

Rearrange the exponential equation to solve for for the rate given this scenario?

A $r = -\frac{e^{\frac{550}{700}}}{4}$	B $r = -\frac{\ln\frac{700}{550}}{4}$
C $r = -\frac{\ln\frac{550}{700}}{4}$	

2

A toxin starts at a concentration of 900mg/L. It declines continuously at a certain percent per week. After 7 weeks it has decreased to a concentration of 729mg/L.

Rearrange the exponential equation to solve for for the rate given this scenario?

A $r = -\frac{\ln\frac{900}{729}}{7}$	B $r = -\frac{\ln\frac{729}{900}}{7}$

3

A whale population starts at 800. It declines continuously at a certain percent per quarter. After 7 quarters it has decreased to a population of 695 whales.

Rearrange the exponential equation to solve for for the rate given this scenario?

A $r = -\frac{\ln\frac{695}{800}}{7}$	B $r = -\frac{\ln\frac{800}{695}}{7}$

4

A bird population starts at 200. It declines continuously at a certain percent per year. After 5 years it has decreased to a population of 163.

Rearrange the exponential equation to solve for for the rate given this scenario?

A $r = -\frac{\ln\frac{200}{163}}{5}$	B $r = -\frac{e^{\frac{163}{200}}}{5}$
C $r = -\frac{\ln\frac{163}{200}}{5}$	

5

A radioactive material starts at an isotope concentration of 400ppm. It decays continuously at a certain percent per week. After 6 weeks it has decayed to an isotope concentration of 233ppm.

Rearrange the exponential equation to solve for for the rate of decay given this scenario?

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

6

A bacteria population starts at 500. It declines continuously at a certain percent per month. After 2 months it has decreased to a population of 443 bacteria.

Rearrange the exponential equation to solve for for the rate given this scenario?

A $r = -\frac{e^{\frac{443}{500}}}{2}$	B $r = -\frac{\ln\frac{443}{500}}{2}$

7

A radioactive material starts at an isotope concentration of 200ppm. It decays continuously at a certain percent per hour. After 6 hours it has decayed to an isotope concentration of 116ppm.

Rearrange the exponential equation to solve for for the rate of decay given this scenario?

A $r = -\frac{\ln\frac{116}{200}}{6}$	B $r = -\frac{e^{\frac{116}{200}}}{6}$
C $r = -\frac{\ln\frac{200}{116}}{6}$	

8

A bacteria population starts at 300. It declines continuously at a certain percent per day. After 6 days it has decreased to a population of 185 bacteria.

Rearrange the exponential equation to solve for for the rate given this scenario?

A $r = -\frac{e^{\frac{185}{300}}}{6}$	B $r = -\frac{\ln\frac{300}{185}}{6}$
C $r = -\frac{\ln\frac{185}{300}}{6}$	