Name

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

1

A company's share price starts at $400. It grows continuously at a certain percent growth per year. After 2 months it has a share price of $469.

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

A $r = \dfrac{\ln \frac{469}{400}}{\frac{2}{12}}$

B $r = \dfrac{e^{\frac{469}{400}}}{\frac{2}{12}}$

2

An app starts with 800 downloads. Its download count grows continually by a certain percent each day. After 4 years it has 1,146 downloads.

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

A $r = \dfrac{\ln \frac{1146}{800}}{4 \cdot 365}$

B $r = \dfrac{e^{\frac{1146}{800}}}{4 \cdot 365}$

C $r = \dfrac{\ln \frac{800}{1146}}{\frac{4}{365}}$

3

A credit card starts with $600 of debt. It grows continuously at a certain percent interest per quarter. After 5 months the debt has grown to $732.

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

A $r = \dfrac{\ln \frac{732}{600}}{\frac{5}{3}}$

B $r = \dfrac{e^{\frac{732}{600}}}{\frac{5}{3}}$

4

A bacteria population starts at 200. It grows continuously at a certain percent growth per year. After 5 days it has increased to a population of 283.

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

A $r = \dfrac{\ln \frac{200}{283}}{5 \cdot 365}$

B $r = \dfrac{\ln \frac{283}{200}}{\frac{5}{365}}$

C $r = \dfrac{e^{\frac{283}{200}}}{\frac{5}{365}}$

5

A bacteria population starts at 600. It grows continuously at a certain percent growth per year. After 7 days it has increased to a population of 740.

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

A $r = \dfrac{\ln \frac{600}{740}}{7 \cdot 365}$

B $r = \dfrac{\ln \frac{740}{600}}{\frac{7}{365}}$

C $r = \dfrac{e^{\frac{740}{600}}}{\frac{7}{365}}$

6

A credit card starts with $800 of debt. It grows continuously at a certain percent interest per quarter. After 4 months the debt has grown to $1,146.

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

A $r = \dfrac{\ln \frac{800}{1146}}{4 \cdot 3}$

B $r = \dfrac{e^{\frac{1146}{800}}}{\frac{4}{3}}$

C $r = \dfrac{\ln \frac{1146}{800}}{\frac{4}{3}}$

7

A savings account starts with $300. It grows continuously at a certain percent interest per quarter. After 5 months it has $447.

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

A $r = \dfrac{\ln \frac{300}{447}}{5 \cdot 3}$

B $r = \dfrac{\ln \frac{447}{300}}{\frac{5}{3}}$

C $r = \dfrac{e^{\frac{447}{300}}}{\frac{5}{3}}$

8

A company's share price starts at $400. It grows continuously at a certain percent growth per month. After 2 years it has a share price of $424.

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

A $r = \dfrac{e^{\frac{424}{400}}}{2 \cdot 12}$

B $r = \dfrac{\ln \frac{424}{400}}{2 \cdot 12}$

C $r = \dfrac{\ln \frac{400}{424}}{\frac{2}{12}}$