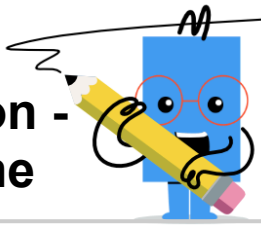
Name

Exponential Function Solution Equation - Growth (Continuous) - Scenario to Time



1

A company's share price starts at \$300. It grows continuously at 5% growth per quarter. After a certain number of quarters it has a share price of \$331.

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

A $t = -\frac{\ln 331 \cdot 300}{0.05}$

B $t = +\frac{\ln \frac{331}{300}}{0.05}$

C $t = +\frac{0.05}{\ln \frac{331}{300}}$

2

A bacteria population starts at 500. It grows continuously at 7% growth per day. After a certain number of days it has increased to a population of 575.

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

A $t = +\frac{\ln \frac{575}{500}}{0.07}$

B $t = -\frac{\ln 575 \cdot 500}{0.07}$

C $t = +\frac{0.07}{\ln \frac{575}{500}}$

3

A credit card starts with \$300 of debt. It grows continuously at 5% interest per year. After a certain number of years the debt has grown to \$366.

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

A $t = -\frac{\ln 366 \cdot 300}{0.05}$

B $t = +\frac{0.05}{\ln \frac{366}{300}}$

C $t = +\frac{\ln \frac{366}{300}}{0.05}$

4

A credit card starts with \$800 of debt. It grows continuously at 6% interest per quarter. After a certain number of quarters the debt has grown to \$1,079.

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

A $t = +\frac{\ln \frac{1079}{800}}{0.06}$

B $t = +\frac{0.06}{\ln \frac{1079}{800}}$

C $t = -\frac{\ln 1079 \cdot 800}{0.06}$

5

A savings account starts with \$400. It grows continuously at 7% interest per month. After a certain number of months it has \$700.

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

A $t = -\frac{\ln 700 \cdot 400}{0.07}$

B $t = +\frac{0.07}{\ln \frac{700}{400}}$

C $t = +\frac{\ln \frac{700}{400}}{0.07}$

6

An app starts with 200 downloads. Its download count grows continually by 6% each year.After a certain number of years it has 323 downloads.

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

A $t = -\frac{\ln 323 \cdot 200}{0.06}$

B $t = +\frac{0.06}{\ln \frac{323}{200}}$

C $t = +\frac{\ln \frac{323}{200}}{0.06}$

7

A credit card starts with \$500 of debt. It grows continuously at 8% interest per year. After a certain number of years the debt has grown to \$875.

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

A $t = +\frac{0.08}{\ln \frac{875}{500}}$

B $t = +\frac{\ln \frac{875}{500}}{0.08}$

C $t = -\frac{\ln 875 \cdot 500}{0.08}$

8

A savings account starts with \$500. It grows continuously at 2% interest per year. After a certain number of years it has \$541.

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

A $t = +\frac{\ln \frac{541}{500}}{0.02}$

B $t = -\frac{\ln 541 \cdot 500}{0.02}$