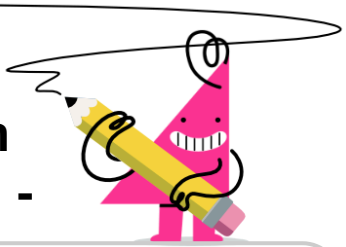
Name

Exponential Function Solving - Growth (Continuous, Mis-matched Time Units) - Scenario to Time



1

An insect population starts at 600. It grows continuously at 7% growth per day. After a certain number of weeks it has increased to a population of 1,126.

How would you solve for the time given this scenario?

A $t = +7 \cdot \frac{\ln \frac{P}{P_0}}{r}$

B $t = +7 \cdot \frac{\ln P \cdot P_0}{r}$

C $t = +\frac{1}{7} \cdot \frac{\ln \frac{P}{P_0}}{r}$

2

A company's share price starts at $300. It grows continuously at 6% growth per year. After a certain number of months it has a share price of $381.

How would you solve for the time given this scenario?

A $t = +\frac{1}{12} \cdot \frac{\ln S \cdot S_0}{r}$

B $t = +12 \cdot \frac{r}{\ln \frac{S}{S_0}}$

C $t = +12 \cdot \frac{\ln \frac{S}{S_0}}{r}$

3

A rabbit population starts at 400. It grows continuously at 7% growth per year. After a certain number of quarters it has increased to a population of 567 rabbits.

How would you solve for the time given this scenario?

A $t = +\frac{1}{4} \cdot \frac{\ln P \cdot P_0}{r}$

B $t = +4 \cdot \frac{\ln \frac{P}{P_0}}{r}$

C $t = +\frac{1}{4} \cdot \frac{\ln \frac{P}{P_0}}{r}$

4

An insect population starts at 200. It grows continuously at 7% growth per day. After a certain number of years it has increased to a population of 350.

How would you solve for the time given this scenario?

A $t = +\frac{1}{365} \cdot \frac{r}{\ln \frac{P}{P_0}}$

B $t = +\frac{1}{365} \cdot \frac{\ln \frac{P}{P_0}}{r}$

C $t = +365 \cdot \frac{\ln P \cdot P_0}{r}$

5

A social media post starts with 900 views. Its view count grows continually by 7% each day.After a certain number of years it has 1,110 views.

How would you solve for the time given this scenario?

A $t = +\frac{1}{365} \cdot \frac{r}{\ln \frac{V}{V_0}}$

B $t = +\frac{1}{365} \cdot \frac{\ln \frac{V}{V_0}}{r}$

C $t = +365 \cdot \frac{\ln \frac{V}{V_0}}{r}$

6

A social media post starts with 500 views. Its view count grows continually by 4% each month.After a certain number of years it has 563 views.

How would you solve for the time given this scenario?

A $t = +12 \cdot \frac{\ln \frac{V}{V_0}}{r}$

B $t = +\frac{1}{12} \cdot \frac{r}{\ln \frac{V}{V_0}}$

C $t = +\frac{1}{12} \cdot \frac{\ln \frac{V}{V_0}}{r}$

7

A credit card starts with $400 of debt. It grows continuously at 6% interest per quarter. After a certain number of months the debt has grown to $539.

How would you solve for the time given this scenario?

A $t = +\frac{1}{3} \cdot \frac{\ln D \cdot D_0}{r}$

B $t = +\frac{1}{3} \cdot \frac{\ln \frac{D}{D_0}}{r}$

C $t = +3 \cdot \frac{\ln \frac{D}{D_0}}{r}$

8

A social media post starts with 800 views. Its view count grows continually by 7% each year.After a certain number of months it has 920 views.

How would you solve for the time given this scenario?

A $t = +\frac{1}{12} \cdot \frac{\ln V \cdot V_0}{r}$

B $t = +12 \cdot \frac{r}{\ln \frac{V}{V_0}}$

C $t = +12 \cdot \frac{\ln \frac{V}{V_0}}{r}$