



Exponential Function Solution Equation - Growth (Continuous) Scenario to Starting Value

1

Rearrange the exponential equation to solve for for the starting population given this scenario?

An insect population starts at a certain size. It grows continuously at 8% growth per week. After 3 weeks it has increased to a population of 635.

A $P_0 = \frac{635}{e^{(\frac{0.08}{3})}}$

B $P_0 = \frac{e^{(0.08 \cdot 3)}}{635}$

C $P_0 = \frac{635}{e^{(0.08 \cdot 3)}}$

2

Rearrange the exponential equation to solve for for the starting population given this scenario?

A bacteria population starts at a certain size. It grows continuously at 5% growth per year. After 8 years it has increased to a population of 1,342.

A $P_0 = \frac{1342}{e^{(\frac{0.05}{8})}}$

B $P_0 = \frac{1342}{e^{(0.05 \cdot 8)}}$

3

Rearrange the exponential equation to solve for for the starting population given this scenario?

An insect population starts at a certain size. It grows continuously at 2% growth per month. After 5 months it has increased to a population of 994.

A $P_0 = \frac{e^{(0.02 \cdot 5)}}{994}$

B $P_0 = \frac{994}{e^{(0.02 \cdot 5)}}$

C $P_0 = \frac{994}{e^{(\frac{0.02}{5})}}$

4

Rearrange the exponential equation to solve for for the starting population given this scenario?

A rabbit population starts at a certain size. It grows continuously at 5% growth per year. After 2 years it has increased to a population of 773 rabbits.

A $P_0 = \frac{e^{(0.05 \cdot 2)}}{773}$

B $P_0 = \frac{773}{e^{(0.05 \cdot 2)}}$

5

Rearrange the exponential equation to solve for for the starting downloads given this scenario?

An app starts with a certain number of downloads. Its download count grows continually by 7% each year. After 8 years it has 1,050 downloads.

A $A_0 = \frac{e^{(0.07 \cdot 8)}}{1050}$

B $A_0 = \frac{1050}{e^{(0.07 \cdot 8)}}$

6

Rearrange the exponential equation to solve for for the starting debt given this scenario?

A credit card starts with a certain amount of debt. It grows continuously at 4% interest per year. After 8 years the debt has grown to \$826.

A $D_0 = \frac{826}{e^{(0.04 \cdot 8)}}$

B $D_0 = \frac{826}{e^{(\frac{0.04}{8})}}$

C $D_0 = \frac{e^{(0.04 \cdot 8)}}{826}$

7

Rearrange the exponential equation to solve for for the starting debt given this scenario?

A credit card starts with a certain amount of debt. It grows continuously at 9% interest per year. After 5 years the debt has grown to \$940.

A $D_0 = \frac{940}{e^{(\frac{0.09}{5})}}$

B $D_0 = \frac{940}{e^{(0.09 \cdot 5)}}$

C $D_0 = \frac{e^{(0.09 \cdot 5)}}{940}$

8

Rearrange the exponential equation to solve for for the starting price given this scenario?

A company's share price starts at a certain value. It grows continuously at 9% growth per year. After 8 years it has a share price of \$410.

A $S_0 = \frac{410}{e^{(\frac{0.09}{8})}}$

B $S_0 = \frac{e^{(0.09 \cdot 8)}}{410}$

C $S_0 = \frac{410}{e^{(0.09 \cdot 8)}}$