Name

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

1

A rabbit population starts at 200. Each subsequent yearly breeding season it grows by 5%. After a certain number of years it has increased to a population of 243 rabbits.

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

A $t = \frac{\ln \frac{243}{200}}{\ln(1-0.05)}$	B $t = \frac{\ln \frac{243}{200}}{\ln(1+0.05)}$
C $t = \frac{\ln 243 \cdot 200}{\ln(1+0.05)}$	

2

A credit card starts with $500 of debt. Each subsequent quarter it grows by 2% in interest. After a certain number of quarters the debt has grown to $530.

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

A $t = \frac{\ln 530 \cdot 500}{\ln(1+0.02)}$	B $t = \frac{\ln \frac{530}{500}}{\ln(1+0.02)}$

3

A savings account starts with $700. Each subsequent year it earns 3% in interest. After a certain number of years it has $913.

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

A $t = \frac{\ln \frac{913}{700}}{\ln(1-0.03)}$	B $t = \frac{\ln \frac{913}{700}}{\ln(1+0.03)}$
C $t = \frac{\ln 913 \cdot 700}{\ln(1+0.03)}$	

4

A savings account starts with $600. Each subsequent year it earns 3% in interest. After a certain number of years it has $636.

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

A $t = \frac{\ln \frac{636}{600}}{\ln(1-0.03)}$	B $t = \frac{\ln \frac{636}{600}}{\ln(1+0.03)}$

5

A credit card starts with $300 of debt. Each subsequent quarter it grows by 9% in interest. After a certain number of quarters the debt has grown to $503.

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

A $t = \frac{\ln 503 \cdot 300}{\ln(1+0.09)}$	B $t = \frac{\ln \frac{503}{300}}{\ln(1+0.09)}$
C $t = \frac{\ln \frac{503}{300}}{\ln(1-0.09)}$	

6

A savings account starts with $700. Each subsequent year it earns 2% in interest. After a certain number of years it has $788.

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

A $t = \frac{\ln 788 \cdot 700}{\ln(1+0.02)}$	B $t = \frac{\ln \frac{788}{700}}{\ln(1-0.02)}$
C $t = \frac{\ln \frac{788}{700}}{\ln(1+0.02)}$	

7

An insect population starts at 700. Each subsequent yearly breeding season it grows by 8%. After a certain number of years it has increased to a population of 816.

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

A $t = \frac{\ln \frac{816}{700}}{\ln(1+0.08)}$	B $t = \frac{\ln \frac{816}{700}}{\ln(1-0.08)}$

8

A rabbit population starts at 700. Each subsequent yearly breeding season it grows by 3%. After a certain number of years it has increased to a population of 811 rabbits.

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

A $t = \frac{\ln \frac{811}{700}}{\ln(1+0.03)}$	B $t = \frac{\ln \frac{811}{700}}{\ln(1-0.03)}$
C $t = \frac{\ln 811 \cdot 700}{\ln(1+0.03)}$	