



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

1 Rearrange this equation to solve for the time given this model of a growth of an insect population that breeds once per year?

$$757 = 700 \cdot (1 + 0.02)^{(t)}$$

A $t = \frac{\ln \frac{757}{700}}{\ln(1 + 0.02)}$

B $t = \frac{\ln 757 \cdot 700}{\ln(1 + 0.02)}$

C $t = \frac{\ln \frac{757}{700}}{\ln(1 - 0.02)}$

2 Rearrange this equation to solve for the time given this model of a growth of an insect population that breeds once per year?

$$441 = 400 \cdot (1 + 0.05)^{(t)}$$

A $t = \frac{\ln \frac{441}{400}}{\ln(1 + 0.05)}$

B $t = \frac{\ln \frac{441}{400}}{\ln(1 - 0.05)}$

3 Rearrange this equation to solve for the time given this model of a growth of a rabbit population (yearly breeding cycle)?

$$224 = 200 \cdot (1 + 0.04)^{(t)}$$

A $t = \frac{\ln \frac{224}{200}}{\ln(1 - 0.04)}$

B $t = \frac{\ln 224 \cdot 200}{\ln(1 + 0.04)}$

C $t = \frac{\ln \frac{224}{200}}{\ln(1 + 0.04)}$

4 Rearrange this equation to solve for the time given this model of a growth in credit card debt with monthly interest?

$$1,206 = 900 \cdot (1 + 0.05)^{(t)}$$

A $t = \frac{\ln 1206 \cdot 900}{\ln(1 + 0.05)}$

B $t = \frac{\ln \frac{1206}{900}}{\ln(1 + 0.05)}$

5 Rearrange this equation to solve for the time given this model of a growth in credit card debt with monthly interest?

$$1,351 = 800 \cdot (1 + 0.06)^{(t)}$$

A $t = \frac{\ln \frac{1351}{800}}{\ln(1 + 0.06)}$

B $t = \frac{\ln 1351 \cdot 800}{\ln(1 + 0.06)}$

6 Rearrange this equation to solve for the time given this model of a growth of a rabbit population (yearly breeding cycle)?

$$885 = 700 \cdot (1 + 0.04)^{(t)}$$

A $t = \frac{\ln \frac{885}{700}}{\ln(1 + 0.04)}$

B $t = \frac{\ln 885 \cdot 700}{\ln(1 + 0.04)}$

C $t = \frac{\ln \frac{885}{700}}{\ln(1 - 0.04)}$

7 Rearrange this equation to solve for the time given this model of a quarterly compounding growth of money in a savings account?

$$1,266 = 900 \cdot (1 + 0.05)^{(t)}$$

A $t = \frac{\ln 1266 \cdot 900}{\ln(1 + 0.05)}$

B $t = \frac{\ln \frac{1266}{900}}{\ln(1 + 0.05)}$

8 Rearrange this equation to solve for the time given this model of a growth in credit card debt with monthly interest?

$$797 = 400 \cdot (1 + 0.09)^{(t)}$$

A $t = \frac{\ln 797 \cdot 400}{\ln(1 + 0.09)}$

B $t = \frac{\ln \frac{797}{400}}{\ln(1 + 0.09)}$