Name

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

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

$$711 = 500 \cdot (1 + 0.04)^{(t)}$$

A $t = \frac{\ln \frac{711}{500}}{\ln (1 + 0.04)}$

B $t = \frac{\ln 711 \cdot 500}{\ln (1 + 0.04)}$

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

$$490 = 400 \cdot (1 + 0.07)^{(t)}$$

A $t = \frac{\ln \frac{490}{400}}{\ln (1 + 0.07)}$

B $t = \frac{\ln 490 \cdot 400}{\ln (1 + 0.07)}$

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

$$1,106 = 900 \cdot (1 + 0.03)^{(t)}$$

A $t = \frac{\ln \frac{1106}{900}}{\ln (1 + 0.03)}$

B $t = \frac{\ln \frac{1106}{900}}{\ln (1 - 0.03)}$

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

$$1,096 = 600 \cdot (1 + 0.09)^{(t)}$$

A $t = \frac{\ln 1096 \cdot 600}{\ln (1 + 0.09)}$

B $t = \frac{\ln \frac{1096}{600}}{\ln (1 + 0.09)}$

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

$$295 = 200 \cdot (1 + 0.05)^{(t)}$$

A $t = \frac{\ln \frac{295}{200}}{\ln (1 + 0.05)}$

B $t = \frac{\ln \frac{295}{200}}{\ln (1 - 0.05)}$

C $t = \frac{\ln 295 \cdot 200}{\ln (1 + 0.05)}$

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

$$475 = 400 \cdot (1 + 0.09)^{(t)}$$

A $t = \frac{\ln \frac{475}{400}}{\ln (1 + 0.09)}$

B $t = \frac{\ln \frac{475}{400}}{\ln (1 - 0.09)}$

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

$$231 = 200 \cdot (1 + 0.03)^{(t)}$$

A $t = \frac{\ln \frac{231}{200}}{\ln (1 - 0.03)}$

B $t = \frac{\ln \frac{231}{200}}{\ln (1 + 0.03)}$

C $t = \frac{\ln 231 \cdot 200}{\ln (1 + 0.03)}$

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

$$816 = 700 \cdot (1 + 0.08)^{(t)}$$

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

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

C $t = \frac{\ln \frac{816}{700}}{\ln (1 - 0.08)}$