



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

1 Rearrange this equation to solve for the time given this model of a growth of debt on a credit card with continuous compounding?

$$261 = 200 \cdot e^{(0.03 \cdot t)}$$

A $t = \frac{0.03}{\ln \frac{261}{200}}$

B $t = \frac{\ln \frac{261}{200}}{0.03}$

2 Rearrange this equation to solve for the time given this model of a continuous growth of an insect population?

$$1,369 = 900 \cdot e^{(0.06 \cdot t)}$$

A $t = -\frac{\ln 1369 \cdot 900}{0.06}$

B $t = \frac{\ln \frac{1369}{900}}{0.06}$

3 Rearrange this equation to solve for the time given this model of a continuously compounding growth of app downloads?

$$275 = 200 \cdot e^{(0.08 \cdot t)}$$

A $t = \frac{0.08}{\ln \frac{275}{200}}$

B $t = \frac{\ln \frac{275}{200}}{0.08}$

4 Rearrange this equation to solve for the time given this model of a continuously compounding growth of a share price?

$$508 = 400 \cdot e^{(0.08 \cdot t)}$$

A $t = \frac{\ln \frac{508}{400}}{0.08}$

B $t = \frac{0.08}{\ln \frac{508}{400}}$

5 Rearrange this equation to solve for the time given this model of a continuous growth of an insect population?

$$838 = 700 \cdot e^{(0.03 \cdot t)}$$

A $t = \frac{0.03}{\ln \frac{838}{700}}$

B $t = \frac{\ln \frac{838}{700}}{0.03}$

C $t = -\frac{\ln 838 \cdot 700}{0.03}$

6 Rearrange this equation to solve for the time given this model of a continuous exponential growth of social media post views?

$$1,144 = 900 \cdot e^{(0.04 \cdot t)}$$

A $t = -\frac{\ln 1144 \cdot 900}{0.04}$

B $t = \frac{0.04}{\ln \frac{1144}{900}}$

C $t = \frac{\ln \frac{1144}{900}}{0.04}$

7 Rearrange this equation to solve for the time given this model of a continuously compounding growth of a share price?

$$596 = 400 \cdot e^{(0.05 \cdot t)}$$

A $t = \frac{0.05}{\ln \frac{596}{400}}$

B $t = \frac{\ln \frac{596}{400}}{0.05}$

8 Rearrange this equation to solve for the time given this model of a continuous growth of a rabbit population?

$$901 = 800 \cdot e^{(0.03 \cdot t)}$$

A $t = -\frac{\ln 901 \cdot 800}{0.03}$

B $t = \frac{0.03}{\ln \frac{901}{800}}$

C $t = \frac{\ln \frac{901}{800}}{0.03}$