



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

1 Solve for the time given this model of a growth of debt on a credit card with continuous compounding?

$$366 = 300 \cdot e^{(0.05 \cdot t)}$$

A $t = + \frac{\ln \frac{D}{D_0}}{r}$

B $t = + \frac{\ln D \cdot D_0}{r}$

C $t = + \frac{r}{\ln \frac{D}{D_0}}$

2 Solve for the time given this model of a continuously compounding growth of app downloads?

$$627 = 400 \cdot e^{(0.09 \cdot t)}$$

A $t = + \frac{\ln \frac{A}{A_0}}{r}$

B $t = + \frac{\ln A \cdot A_0}{r}$

3 Solve for the time given this model of a continuous exponential growth of social media post views?

$$1,131 = 700 \cdot e^{(0.06 \cdot t)}$$

A $t = + \frac{r}{\ln \frac{V}{V_0}}$

B $t = + \frac{\ln \frac{V}{V_0}}{r}$

C $t = + \frac{\ln V \cdot V_0}{r}$

4 Solve for the time given this model of a continuous growth of an insect population?

$$649 = 600 \cdot e^{(0.04 \cdot t)}$$

A $t = + \frac{r}{\ln \frac{P}{P_0}}$

B $t = + \frac{\ln P \cdot P_0}{r}$

C $t = + \frac{\ln \frac{P}{P_0}}{r}$

5 Solve for the time given this model of a continuously compounding growth of money in a savings account?

$$586 = 500 \cdot e^{(0.08 \cdot t)}$$

A $t = + \frac{\ln P \cdot P_0}{r}$

B $t = + \frac{r}{\ln \frac{P}{P_0}}$

C $t = + \frac{\ln \frac{P}{P_0}}{r}$

6 Solve for the time given this model of a continuous exponential growth of social media post views?

$$345 = 300 \cdot e^{(0.07 \cdot t)}$$

A $t = + \frac{r}{\ln \frac{V}{V_0}}$

B $t = + \frac{\ln \frac{V}{V_0}}{r}$

7 Solve for the time given this model of a continuous growth of a rabbit population?

$$331 = 300 \cdot e^{(0.05 \cdot t)}$$

A $t = + \frac{\ln \frac{P}{P_0}}{r}$

B $t = + \frac{\ln P \cdot P_0}{r}$

8 Solve for the time given this model of a continuous growth of an insect population?

$$442 = 400 \cdot e^{(0.05 \cdot t)}$$

A $t = + \frac{\ln \frac{P}{P_0}}{r}$

B $t = + \frac{\ln P \cdot P_0}{r}$