



## Exponential Function Solving - Growth (Continuous) Equation to Rate

1 Solve for the rate given this model of a continuous growth of a rabbit population?

$$654 = 500 \cdot e^{(r \cdot 9)}$$

A  $3 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

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

C  $3 + r = + \frac{\ln \frac{P_0}{P}}{t}$

2 Solve for the rate given this model of a continuously compounding growth of a share price?

$$866 = 800 \cdot e^{(r \cdot 2)}$$

A  $7 + r = + \frac{\ln \frac{S_0}{S}}{t}$

B  $1 + r = + \frac{e^{\frac{S}{S_0}}}{t}$

C  $7 + r = + \frac{e^{\frac{S}{S_0}}}{t}$

D  $r = + \frac{\ln \frac{S}{S_0}}{t}$

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

$$254 = 200 \cdot e^{(r \cdot 8)}$$

A  $7 + r = + \frac{\ln \frac{V}{V_0}}{t}$

B  $4 + r = + \frac{\ln \frac{V_0}{V}}{t}$

C  $8 + r = + \frac{e^{\frac{V}{V_0}}}{t}$

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

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

$$1,144 = 900 \cdot e^{(r \cdot 8)}$$

A  $1 + r = + \frac{\ln \frac{V}{V_0}}{t}$

B  $1 + r = + \frac{e^{\frac{V}{V_0}}}{t}$

C  $8 + r = + \frac{e^{\frac{V}{V_0}}}{t}$

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

5 Solve for the rate given this model of a continuous growth of a rabbit population?

$$1,014 = 900 \cdot e^{(r \cdot 6)}$$

A  $7 + r = + \frac{\ln \frac{P}{P_0}}{t}$

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

C  $5 + r = + \frac{\ln \frac{P_0}{P}}{t}$

D  $1 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

6 Solve for the rate given this model of a continuous growth of a bacteria population?

$$1,044 = 700 \cdot e^{(r \cdot 8)}$$

A  $9 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

B  $1 + r = + \frac{\ln \frac{P}{P_0}}{t}$

C  $2 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

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

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

$$858 = 500 \cdot e^{(r \cdot 9)}$$

A  $9 + r = + \frac{\ln \frac{V_0}{V}}{t}$

B  $7 + r = + \frac{e^{\frac{V}{V_0}}}{t}$

C  $3 + r = + \frac{\ln \frac{V_0}{V}}{t}$

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

8 Solve for the rate given this model of a continuous growth of a rabbit population?

$$1,254 = 800 \cdot e^{(r \cdot 9)}$$

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

B  $5 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

C  $6 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

D  $1 + r = + \frac{e^{\frac{P}{P_0}}}{t}$