



Exponential Function Solving - Growth (Continuous) Scenario to Rate

1

Solve for the rate given this scenario?

An insect population starts at 600. It grows continuously at a certain percent growth per day. After 7 days it has increased to a population of 793.

A $0 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

B $0 + r = + \frac{\ln \frac{P_0}{P}}{t}$

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

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

2

Solve for the rate given this scenario?

A social media post starts with 400 views. Its view count grows continually by a certain percent each year. After 7 years it has 751 views.

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

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

C $2 + r = + \frac{\ln \frac{V_0}{V}}{t}$

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

3

Solve for the rate given this scenario?

A company's share price starts at \$900. It grows continuously at a certain percent growth per year. After 4 years it has a share price of \$1,239.

A $3 + r = + \frac{\ln \frac{S_0}{S}}{t}$

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

C $2 + r = + \frac{\ln \frac{S_0}{S}}{t}$

D $4 + r = + \frac{\ln \frac{S_0}{S}}{t}$

4

Solve for the rate given this scenario?

A credit card starts with \$400 of debt. It grows continuously at a certain percent interest per month. After 8 months the debt has grown to \$469.

A $7 + r = + \frac{\ln \frac{D_0}{D}}{t}$

B $2 + r = + \frac{e^{\frac{D}{D_0}}}{t}$

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

D $9 + r = + \frac{e^{\frac{D_0}{D}}}{t}$

5

Solve for the rate given this scenario?

A savings account starts with \$200. It grows continuously at a certain percent interest per year. After 3 years it has \$261.

A $0 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

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

C $9 + r = + \frac{\ln \frac{P_0}{P}}{t}$

D $4 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

6

Solve for the rate given this scenario?

A social media post starts with 600 views. Its view count grows continually by a certain percent each week. After 3 weeks it has 785 views.

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

B $5 + r = + \frac{\ln \frac{V_0}{V}}{t}$

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

D $6 + r = + \frac{e^{\frac{V}{V_0}}}{t}$

7

Solve for the rate given this scenario?

An app starts with 800 downloads. Its download count grows continually by a certain percent each week. After 6 weeks it has 1,217 downloads.

A $4 + r = + \frac{e^{\frac{A}{A_0}}}{t}$

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

C $0 + r = + \frac{e^{\frac{A}{A_0}}}{t}$

D $9 + r = + \frac{e^{\frac{A}{A_0}}}{t}$

8

Solve for the rate given this scenario?

A rabbit population starts at 400. It grows continuously at a certain percent growth per year. After 8 years it has increased to a population of 646 rabbits.

A $0 + r = + \frac{e^{\frac{P}{P_0}}}{t}$

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

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