



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

1

How would you solve for the rate given this scenario?

A bacteria population starts at 300. It grows continuously at a certain percent growth per day. After 7 days it has increased to a population of 345.

A	$r = +\frac{e^{\frac{P}{P_0}}}{t}$	B	$r = +\frac{\ln \frac{P}{P_0}}{t}$
C	$r = +\frac{\ln \frac{P_0}{P}}{t}$		

2

How would you solve for the rate given this scenario?

An insect population starts at 300. It grows continuously at a certain percent growth per week. After 5 weeks it has increased to a population of 404.

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

3

How would you solve for the rate given this scenario?

A company's share price starts at \$400. It grows continuously at a certain percent growth per year. After 9 years it has a share price of \$478.

A	$r = +\frac{e^{\frac{S}{S_0}}}{t}$	B	$r = +\frac{\ln \frac{S_0}{S}}{t}$
C	$r = +\frac{\ln \frac{S}{S_0}}{t}$		

4

How would you solve for the rate given this scenario?

An app starts with 800 downloads. Its download count grows continually by a certain percent each day. After 2 days it has 920 downloads.

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

5

How would you solve for the rate given this scenario?

An app starts with 500 downloads. Its download count grows continually by a certain percent each year. After 3 years it has 598 downloads.

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

6

How would you solve for the rate given this scenario?

A rabbit population starts at 300. It grows continuously at a certain percent growth per quarter. After 7 quarters it has increased to a population of 345 rabbits.

A	$r = +\frac{\ln \frac{P_0}{P}}{t}$	B	$r = +\frac{\ln \frac{P}{P_0}}{t}$
C	$r = +\frac{e^{\frac{P}{P_0}}}{t}$		

7

How would you solve for the rate given this scenario?

A social media post starts with 900 views. Its view count grows continually by a certain percent each year. After 3 years it has 955 views.

A	$r = +\frac{\ln \frac{V_0}{V}}{t}$	B	$r = +\frac{e^{\frac{V}{V_0}}}{t}$
C	$r = +\frac{\ln \frac{V}{V_0}}{t}$		

8

How would you solve for the rate given this scenario?

A social media post starts with 200 views. Its view count grows continually by a certain percent each week. After 9 weeks it has 343 views.

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