



Exponential Function Solution Equation - Decay (Discrete) Scenario to Starting Value

1

A charitable endowment starts with a certain amount of money. Each yearly it disburses 7% of its remaining funds. After 4 years its funds have decreased to \$673.

Rearrange the exponential equation to solve for for the starting cash given this scenario?

A $P_0 = 673 \cdot (1 - 0.07)^4$

B $P_0 = \frac{673}{(1 - 0.07)^4}$

2

A toxin starts at a certain concentration. Each daily dialysis reduces it by 9%. After 6 days it has decreased to a concentration of 397mg/L.

Rearrange the exponential equation to solve for for the starting concentration given this scenario?

A $C_0 = 397 \cdot (1 - 0.09)^6$ B $C_0 = \frac{397}{(1 - 0.09)^6}$

$C_0 = \frac{397}{(1 + 0.09)^6}$

3

A toxin starts at a certain concentration. Each weekly dialysis reduces it by 7%. After 5 weeks it has decreased to a concentration of 139mg/L.

Rearrange the exponential equation to solve for for the starting concentration given this scenario?

A $C_0 = \frac{139}{(1 - 0.07)^5}$ B $C_0 = 139 \cdot (1 - 0.07)^5$

$C_0 = \frac{139}{(1 + 0.07)^5}$

4

A bird population starts at a certain size. Each subsequent year it declines by 6%. After 4 years it has decreased to a population of 624.

Rearrange the exponential equation to solve for for the starting population given this scenario?

A $P_0 = \frac{624}{(1 - 0.06)^4}$

B $P_0 = 624 \cdot (1 - 0.06)^4$

5

A whale population starts at a certain size. Each subsequent year it declines by 9%. After 3 years it has decreased to a population of 452 whales.

Rearrange the exponential equation to solve for for the starting population given this scenario?

A $P_0 = \frac{452}{(1 - 0.09)^3}$ B $P_0 = \frac{452}{(1 + 0.09)^3}$

6

A charitable endowment starts with a certain amount of money. Each weekly it disburses 8% of its remaining funds. After 6 weeks its funds have decreased to \$121.

Rearrange the exponential equation to solve for for the starting cash given this scenario?

A $P_0 = \frac{121}{(1 + 0.08)^6}$ B $P_0 = \frac{121}{(1 - 0.08)^6}$

7

A toxin starts at a certain concentration. Each daily dialysis reduces it by 9%. After 3 days it has decreased to a concentration of 602mg/L.

Rearrange the exponential equation to solve for for the starting concentration given this scenario?

A $C_0 = \frac{602}{(1 - 0.09)^3}$ B $C_0 = \frac{602}{(1 + 0.09)^3}$

8

A bird population starts at a certain size. Each subsequent year it declines by 3%. After 8 years it has decreased to a population of 156.

Rearrange the exponential equation to solve for for the starting population given this scenario?

A $P_0 = 156 \cdot (1 - 0.03)^8$

B $P_0 = \frac{156}{(1 - 0.03)^8}$