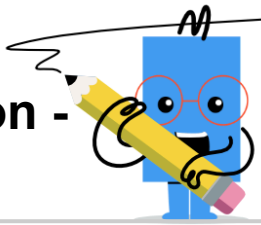
Name

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



1

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

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

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

B $C_0 = 397 \cdot (1-0.09)^6$

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

2

A whale population starts at a certain size. Each subsequent year it declines by 5%. After 3 years it has decreased to a population of 514 whales.

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

A $P_0 = 514 \cdot (1-0.05)^3$

B $P_0 = \frac{514}{(1-0.05)^3}$

3

A bird population starts at a certain size. Each subsequent year it declines by 9%. After 7 years it has decreased to a population of 310.

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

A $P_0 = 310 \cdot (1-0.09)^7$

B $P_0 = \frac{310}{(1+0.09)^7}$

C $P_0 = \frac{310}{(1-0.09)^7}$

4

A toxin starts at a certain concentration. Each daily dialysis reduces it by 8%. After 4 days it has decreased to a concentration of 644mg/L.

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

A $C_0 = 644 \cdot (1-0.08)^4$

B $C_0 = \frac{644}{(1+0.08)^4}$

C $C_0 = \frac{644}{(1-0.08)^4}$

5

A whale population starts at a certain size. Each subsequent year it declines by 7%. After 8 years it has decreased to a population of 223 whales.

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

A $P_0 = \frac{223}{(1-0.07)^8}$

B $P_0 = \frac{223}{(1+0.07)^8}$

6

A bird population starts at a certain size. Each subsequent year it declines by 4%. After 2 years it has decreased to a population of 460.

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

A $P_0 = \frac{460}{(1+0.04)^2}$

B $P_0 = 460 \cdot (1-0.04)^2$

C $P_0 = \frac{460}{(1-0.04)^2}$

7

A whale population starts at a certain size. Each subsequent year it declines by 8%. After 2 years it has decreased to a population of 338 whales.

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

A $P_0 = 338 \cdot (1-0.08)^2$

B $P_0 = \frac{338}{(1+0.08)^2}$

C $P_0 = \frac{338}{(1-0.08)^2}$

8

A charitable endowment starts with a certain amount of money. Each daily it disburses 3% of its remaining funds. After 2 days its funds have decreased to $752.

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

A $P_0 = \frac{752}{(1-0.03)^2}$

B $P_0 = 752 \cdot (1-0.03)^2$

C $P_0 = \frac{752}{(1+0.03)^2}$