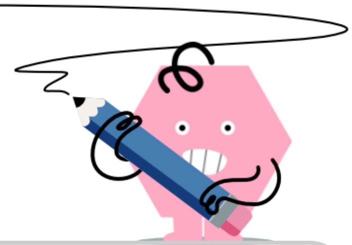
Name



Exponential Function Solving - Decay (Discrete) - Scenario to Time

1

A charitable endowment starts with $800. Each monthly it disburses 2% of its remaining funds. After a certain number of months its funds have decreased to $737.

Solve for the time given this scenario?

A $9+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$	B $t=\frac{\ln \frac{P}{P_0}}{\ln(1-r)}$
C $0+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$	D $7+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$

2

A toxin starts at a concentration of 600mg/L. Each monthly dialysis reduces it by 2%. After a certain number of months it has decreased to a concentration of 510mg/L.

Solve for the time given this scenario?

A $0+t=\frac{\ln C\cdot C_0}{\ln(1-r)}$	B $t=\frac{\ln \frac{C}{C_0}}{\ln(1-r)}$
C $0+t=\frac{\ln \frac{C}{C_0}}{\ln(1+r)}$	D $6+t=\frac{\ln \frac{C}{C_0}}{\ln(1+r)}$

3

A bird population starts at 200. Each subsequent year it declines by 5%. After a certain number of years it has decreased to a population of 139.

Solve for the time given this scenario?

A $5+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$	B $2+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$
C $t=\frac{\ln \frac{P}{P_0}}{\ln(1-r)}$	

4

A charitable endowment starts with $500. Each daily it disburses 8% of its remaining funds. After a certain number of days its funds have decreased to $389.

Solve for the time given this scenario?

A $9+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$	B $t=\frac{\ln \frac{P}{P_0}}{\ln(1-r)}$
C $4+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$	D $6+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$

5

A bird population starts at 300. Each subsequent year it declines by 7%. After a certain number of years it has decreased to a population of 167.

Solve for the time given this scenario?

A $6+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$	B $t=\frac{\ln \frac{P}{P_0}}{\ln(1-r)}$
C $7+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$	D $9+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$

6

A toxin starts at a concentration of 500mg/L. Each weekly dialysis reduces it by 7%. After a certain number of weeks it has decreased to a concentration of 432mg/L.

Solve for the time given this scenario?

A $4+t=\frac{\ln \frac{C}{C_0}}{\ln(1+r)}$	B $6+t=\frac{\ln C\cdot C_0}{\ln(1-r)}$
C $8+t=\frac{\ln C\cdot C_0}{\ln(1-r)}$	D $t=\frac{\ln \frac{C}{C_0}}{\ln(1-r)}$

7

A whale population starts at 600. Each subsequent year it declines by 3%. After a certain number of years it has decreased to a population of 484 whales.

Solve for the time given this scenario?

A $t=\frac{\ln \frac{P}{P_0}}{\ln(1-r)}$	B $3+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$
C $3+t=\frac{\ln P\cdot P_0}{\ln(1-r)}$	D $0+t=\frac{\ln \frac{P}{P_0}}{\ln(1+r)}$

8

A toxin starts at a concentration of 200mg/L. Each monthly dialysis reduces it by 8%. After a certain number of months it has decreased to a concentration of 111mg/L.

Solve for the time given this scenario?

A $t=\frac{\ln \frac{C}{C_0}}{\ln(1-r)}$	B $6+t=\frac{\ln C\cdot C_0}{\ln(1-r)}$
C $7+t=\frac{\ln C\cdot C_0}{\ln(1-r)}$	D $1+t=\frac{\ln \frac{C}{C_0}}{\ln(1+r)}$