Name

Exponential Function Solving - Decay (Discrete) Scenario to Rate

1

A toxin starts at a concentration of 600mg/L. Each hourly dialysis reduces it by a certain percent. After 8 hours it has decreased to a concentration of 282mg/L.

Solve for the rate given this scenario?

A $7+r=-(\frac{C}{C_0})^{\frac{1}{t}}+1$

B $7+r=-(\frac{C}{C_0})^{\frac{t}{2}}-1$

C $r=-(\frac{C}{C_0})^{\frac{1}{t}}-1$

2

A charitable endowment starts with $200. Each daily it disburses a certain percent of its remaining funds. After 4 days its funds have decreased to $156.

Solve for the rate given this scenario?

A $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$

B $4+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

C $2+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

3

A bird population starts at 500. Each subsequent year it declines by a certain percent. After 7 years it has decreased to a population of 258.

Solve for the rate given this scenario?

A $6+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

B $8+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

C $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$

4

A bird population starts at 900. Each subsequent year it declines by a certain percent. After 7 years it has decreased to a population of 676.

Solve for the rate given this scenario?

A $0+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

B $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$

C $0+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

D $6+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

5

A charitable endowment starts with $900. Each monthly it disburses a certain percent of its remaining funds. After 5 months its funds have decreased to $733.

Solve for the rate given this scenario?

A $2+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

B $7+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

C $7+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

D $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$

6

A whale population starts at 300. Each subsequent year it declines by a certain percent. After 5 years it has decreased to a population of 271 whales.

Solve for the rate given this scenario?

A $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$

B $3+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

C $9+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

D $7+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

7

A whale population starts at 600. Each subsequent year it declines by a certain percent. After 4 years it has decreased to a population of 531 whales.

Solve for the rate given this scenario?

A $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$

B $9+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

C $6+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

D $2+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

8

A charitable endowment starts with $500. Each daily it disburses a certain percent of its remaining funds. After 6 days its funds have decreased to $323.

Solve for the rate given this scenario?

A $6+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

B $1+r=-(\frac{P}{P_0})^{\frac{t}{2}}-1$

C $5+r=-(\frac{P}{P_0})^{\frac{1}{t}}+1$

D $r=-(\frac{P}{P_0})^{\frac{1}{t}}-1$