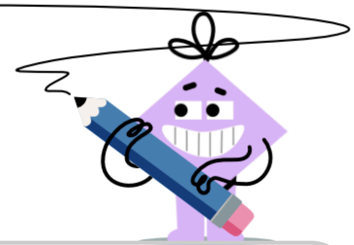
Name ______________________



mobius

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

1

A toxin starts at a concentration of 800mg/L. Each weekly dialysis reduces it by 9%. After 6 weeks it has decreased to a certain concentration.

How would you solve for the final concentration given this scenario?

A $C = C_0 \cdot (1+r)^{(t)}$

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

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

2

A toxin starts at a concentration of 500mg/L. Each daily dialysis reduces it by 8%. After 2 days it has decreased to a certain concentration.

How would you solve for the final concentration given this scenario?

A $C = C_0 \cdot (1+r)^{(t)}$

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

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

3

A whale population starts at 600. Each subsequent year it declines by 7%. After 5 years it has decreased to a certain population.

How would you solve for the final population given this scenario?

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

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

4

A toxin starts at a concentration of 800mg/L. Each weekly dialysis reduces it by 2%. After 6 weeks it has decreased to a certain concentration.

How would you solve for the final concentration given this scenario?

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

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

C $C = C_0 \cdot (1+r)^{(t)}$

5

A bird population starts at 700. Each subsequent year it declines by 4%. After 2 years it has decreased to a certain population.

How would you solve for the final population given this scenario?

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

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

C $P = P_0 \cdot (1+r)^{(t)}$

6

A whale population starts at 900. Each subsequent year it declines by 3%. After 4 years it has decreased to a certain population.

How would you solve for the final population given this scenario?

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

B $P = P_0 \cdot (1+r)^{(t)}$

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

7

A bird population starts at 300. Each subsequent year it declines by 5%. After 4 years it has decreased to a certain population.

How would you solve for the final population given this scenario?

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

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

C $P = P_0 \cdot (1+r)^{(t)}$

8

A toxin starts at a concentration of 400mg/L. Each hourly dialysis reduces it by 3%. After 7 hours it has decreased to a certain concentration.

How would you solve for the final concentration given this scenario?

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

B $C = C_0 \cdot (1+r)^{(t)}$

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