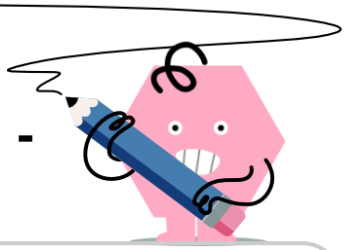
Name

Exponential Function Decay (Discrete) - Scenario to Equation



1

A bird population starts at 300. Each subsequent year it declines by 8%. After 7 years it has decreased to a population of 167.

Which equation describes this scenario?

A $167 = 700 \cdot (1 - 0.08)^{(3)}$

B $167 = 300 \cdot (1 - 0.08)^{(7)}$

C $167 = 800 \cdot (1 - 0.03)^{(7)}$

2

A bird population starts at 900. Each subsequent year it declines by 2%. After 4 years it has decreased to a population of 830.

Which equation describes this scenario?

A $830 = 900 \cdot (1 - 0.04)^{(2)}$

B $830 = 400 \cdot (1 - 0.02)^{(9)}$

C $830 = 900 \cdot (1 - 0.02)^{(4)}$

3

A whale population starts at 700. Each subsequent year it declines by 8%. After 3 years it has decreased to a population of 545 whales.

Which equation describes this scenario?

A $545 = 700 \cdot (1 - 0.08)^{(3)}$

B $545 = 300 \cdot (1 - 0.08)^{(7)}$

C $545 = 800 \cdot (1 - 0.07)^{(3)}$

4

A toxin starts at a concentration of 400mg/L. Each daily dialysis reduces it by 7%. After 8 days it has decreased to a concentration of 223mg/L.

Which equation describes this scenario?

A $223 = 400 \cdot (1 - 0.07)^{(8)}$

B $223 = 800 \cdot (1 - 0.07)^{(4)}$

C $223 = 700 \cdot (1 - 0.04)^{(8)}$

5

A charitable endowment starts with $300. Each daily it disburses 5% of its remaining funds. After 4 days its funds have decreased to $244.

Which equation describes this scenario?

A $244 = 300 \cdot (1 - 0.05)^{(4)}$

B $244 = 500 \cdot (1 - 0.03)^{(4)}$

C $244 = 400 \cdot (1 - 0.05)^{(3)}$

D $244 = 300 \cdot (1 - 0.04)^{(5)}$

6

A bird population starts at 400. Each subsequent year it declines by 7%. After 9 years it has decreased to a population of 208.

Which equation describes this scenario?

A $208 = 900 \cdot (1 - 0.07)^{(4)}$

B $208 = 700 \cdot (1 - 0.04)^{(9)}$

C $208 = 400 \cdot (1 - 0.07)^{(9)}$

7

A toxin starts at a concentration of 600mg/L. Each hourly dialysis reduces it by 7%. After 5 hours it has decreased to a concentration of 417mg/L.

Which equation describes this scenario?

A $417 = 600 \cdot (1 - 0.07)^{(5)}$

B $417 = 700 \cdot (1 - 0.06)^{(5)}$

C $417 = 500 \cdot (1 - 0.07)^{(6)}$

8

A whale population starts at 600. Each subsequent year it declines by 3%. After 5 years it has decreased to a population of 515 whales.

Which equation describes this scenario?

A $515 = 600 \cdot (1 - 0.05)^{(3)}$

B $515 = 500 \cdot (1 - 0.03)^{(6)}$

C $515 = 300 \cdot (1 - 0.06)^{(5)}$

D $515 = 600 \cdot (1 - 0.03)^{(5)}$