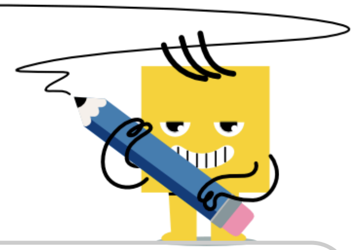
Name ____________________

mobius



Exponential Function Solving - Decay (Discrete, Mis-matched Time Units) Scenario to Value at Time

1

A charitable endowment starts with \$900. Each daily it disburses 3% of its remaining funds. After 7 weeks its funds have decreased to a certain amount.

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

- A $P = P_0 \cdot (1+r)^{\left(\frac{t}{7}\right)}$
- B $P = P_0 \cdot (1-r)^{(t \cdot 7)}$
- C $P = \frac{P_0}{(1-r)^{(t \cdot 7)}}$

2

A toxin starts at a concentration of 800mg/L. Each daily dialysis reduces it by 5%. After 3 weeks it has decreased to a certain concentration.

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

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

3

A toxin starts at a concentration of 500mg/L. Each daily dialysis reduces it by 6%. After 216 hours it has decreased to a certain concentration.

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

- A $C = C_0 \cdot (1-r)^{\left(\frac{t}{24}\right)}$
- B $C = \frac{C_0}{(1-r)^{\left(\frac{t}{24}\right)}}$
- C $C = C_0 \cdot (1+r)^{(t \cdot 24)}$

4

A charitable endowment starts with \$600. Each yearly it disburses 3% of its remaining funds. After 2555 days its funds have decreased to a certain amount.

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

- A $P = P_0 \cdot (1+r)^{(t \cdot 365)}$
- B $P = \frac{P_0}{(1-r)^{\left(\frac{t}{365}\right)}}$
- C $P = P_0 \cdot (1-r)^{\left(\frac{t}{365}\right)}$

5

A charitable endowment starts with \$800. Each weekly it disburses 7% of its remaining funds. After 35 days its funds have decreased to a certain amount.

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

- A $P = P_0 \cdot (1-r)^{\left(\frac{t}{7}\right)}$
- B $P = P_0 \cdot (1+r)^{(t \cdot 7)}$
- C $P = \frac{P_0}{(1-r)^{\left(\frac{t}{7}\right)}}$

6

A toxin starts at a concentration of 600mg/L. Each hourly dialysis reduces it by 8%. After 3 days it has decreased to a certain concentration.

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

- A $C = C_0 \cdot (1+r)^{\left(\frac{t}{24}\right)}$
- B $C = C_0 \cdot (1-r)^{(t \cdot 24)}$
- C $C = \frac{C_0}{(1-r)^{(t \cdot 24)}}$

7

A toxin starts at a concentration of 200mg/L. Each daily dialysis reduces it by 7%. After 5 weeks it has decreased to a certain concentration.

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

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

8

A charitable endowment starts with \$600. Each daily it disburses 5% of its remaining funds. After 8 years its funds have decreased to a certain amount.

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

- A $P = P_0 \cdot (1-r)^{(t \cdot 365)}$
- B $P = \frac{P_0}{(1-r)^{(t \cdot 365)}}$
- C $P = P_0 \cdot (1+r)^{\left(\frac{t}{365}\right)}$