Name

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

**1**

A toxin starts at a certain concentration. Each weekly dialysis reduces it by 7%. After 28 days it has decreased to a concentration of 65mg/L.

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

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

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

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

**2**

A charitable endowment starts with a certain amount of money. Each yearly it disburses 7% of its remaining funds. After 1460 days its funds have decreased to $0.

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

A $P_0 = \frac{P}{(1+r)^{\frac{t}{365}}}$

B $P_0 = \frac{P}{(1-r)^{\frac{t}{365}}}$

C $P_0 = P \cdot (1-r)^{t \cdot 365}$

**3**

A toxin starts at a certain concentration. Each weekly dialysis reduces it by 7%. After 63 days it has decreased to a concentration of 4mg/L.

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

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

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

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

**4**

A toxin starts at a certain concentration. Each weekly dialysis reduces it by 9%. After 56 days it has decreased to a concentration of 3mg/L.

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

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

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

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

**5**

A charitable endowment starts with a certain amount of money. Each daily it disburses 4% of its remaining funds. After 2 years its funds have decreased to $276.

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

A $P_0 = \frac{P}{(1-r)^{t \cdot 365}}$

B $P_0 = \frac{P}{(1+r)^{t \cdot 365}}$

C $P_0 = P \cdot (1-r)^{\frac{t}{365}}$

**6**

A charitable endowment starts with a certain amount of money. Each weekly it disburses 3% of its remaining funds. After 49 days its funds have decreased to $112.

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

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

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

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

**7**

A charitable endowment starts with a certain amount of money. Each daily it disburses 9% of its remaining funds. After 6 weeks its funds have decreased to $283.

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

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

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

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

**8**

A charitable endowment starts with a certain amount of money. Each yearly it disburses 3% of its remaining funds. After 730 days its funds have decreased to $0.

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

A $P_0 = \frac{P}{(1-r)^{\frac{t}{365}}}$

B $P_0 = \frac{P}{(1+r)^{\frac{t}{365}}}$