Name

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

1

A savings account starts with a certain amount of cash. Each subsequent quarter it earns 6% in interest. After 9 years it has $1,351.

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

A $P_0 = P \cdot (1+r)^{\frac{t}{4}}$

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

C $P_0 = \frac{P}{(1+r)^{t \cdot 4}}$

2

A savings account starts with a certain amount of cash. Each subsequent quarter it earns 8% in interest. After 27 months it has $4,792.

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

A $P_0 = P \cdot (1+r)^{t \cdot 3}$

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

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

3

A savings account starts with a certain amount of cash. Each subsequent quarter it earns 4% in interest. After 6 months it has $885.

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

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

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

4

A credit card starts with a certain amount of debt. Each subsequent month it grows by 4% in interest. After 9 years the debt has grown to $996.

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

A $D_0 = \frac{D}{(1+r)^{t \cdot 12}}$

B $D_0 = \frac{D}{(1-r)^{t \cdot 12}}$

5

A savings account starts with a certain amount of cash. Each subsequent month it earns 8% in interest. After 2 years it has $1,049.

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

A $P_0 = P \cdot (1+r)^{\frac{t}{12}}$

B $P_0 = \frac{P}{(1+r)^{t \cdot 12}}$

C $P_0 = \frac{P}{(1-r)^{t \cdot 12}}$

6

A savings account starts with a certain amount of cash. Each subsequent month it earns 7% in interest. After 6 years it has $1,200.

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

A $P_0 = P \cdot (1+r)^{\frac{t}{12}}$

B $P_0 = \frac{P}{(1-r)^{t \cdot 12}}$

C $P_0 = \frac{P}{(1+r)^{t \cdot 12}}$

7

A savings account starts with a certain amount of cash. Each subsequent quarter it earns 3% in interest. After 24 months it has $1,219.

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

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

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

8

A savings account starts with a certain amount of cash. Each subsequent quarter it earns 6% in interest. After 4 years it has $378.

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

A $P_0 = P \cdot (1+r)^{\frac{t}{4}}$

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