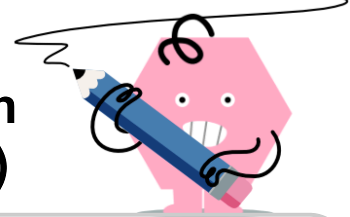
Name ______________________

mobius



Exponential Function Solving - Growth (Continuous, Mis-matched Time Units) Equation to Starting Value

1 Solve for the starting views given this model of a continuous exponential growth of social media post views?

$$269 = V_0 \cdot e^{(0.06 \cdot 5 \cdot 12)}$$

A $V_0 = \frac{e^{(r \cdot t \cdot 12)}}{V}$

B $V_0 = \frac{V}{e^{\left(\frac{\frac{r}{t}}{12}\right)}}$

C $V_0 = \frac{V}{e^{(r \cdot t \cdot 12)}}$

2 Solve for the starting population given this model of a continuous growth of an insect population?

$$1,079 = P_0 \cdot e^{\left(0.05 \cdot \frac{6}{7}\right)}$$

A $P_0 = \frac{P}{e^{\left(r \cdot \frac{t}{7}\right)}}$

B $P_0 = \frac{e^{\left(r \cdot \frac{t}{7}\right)}}{P}$

3 Solve for the starting views given this model of a continuous exponential growth of social media post views?

$$1,135 = V_0 \cdot e^{(0.07 \cdot 5 \cdot 12)}$$

A $V_0 = \frac{V}{e^{\left(\frac{\frac{r}{t}}{12}\right)}}$

B $V_0 = \frac{e^{(r \cdot t \cdot 12)}}{V}$

C $V_0 = \frac{V}{e^{(r \cdot t \cdot 12)}}$

4 Solve for the starting price given this model of a continuously compounding growth of a share price?

$$859 = S_0 \cdot e^{(0.04 \cdot 9 \cdot 3)}$$

A $S_0 = \frac{S}{e^{\left(\frac{\frac{r}{t}}{3}\right)}}$

B $S_0 = \frac{S}{e^{(r \cdot t \cdot 3)}}$

C $S_0 = \frac{e^{(r \cdot t \cdot 3)}}{S}$

5 Solve for the starting price given this model of a continuously compounding growth of a share price?

$$1,277 = S_0 \cdot e^{(0.07 \cdot 5 \cdot 12)}$$

A $S_0 = \frac{e^{(r \cdot t \cdot 12)}}{S}$

B $S_0 = \frac{S}{e^{(r \cdot t \cdot 12)}}$

6 Solve for the starting downloads given this model of a continuously compounding growth of app downloads?

$$381 = A_0 \cdot e^{(0.04 \cdot 6 \cdot 7)}$$

A $A_0 = \frac{e^{(r \cdot t \cdot 7)}}{A}$

B $A_0 = \frac{A}{e^{\left(\frac{\frac{r}{t}}{7}\right)}}$

C $A_0 = \frac{A}{e^{(r \cdot t \cdot 7)}}$

7 Solve for the starting cash given this model of a continuously compounding growth of money in a savings account?

$$690 = P_0 \cdot e^{(0.02 \cdot 7 \cdot 3)}$$

A $P_0 = \frac{P}{e^{\left(\frac{\frac{r}{t}}{3}\right)}}$

B $P_0 = \frac{P}{e^{(r \cdot t \cdot 3)}}$

C $P_0 = \frac{e^{(r \cdot t \cdot 3)}}{P}$

8 Solve for the starting population given this model of a continuous growth of an insect population?

$$732 = P_0 \cdot e^{\left(0.05 \cdot \frac{4}{7}\right)}$$

A $P_0 = \frac{P}{e^{\left(r \cdot \frac{t}{7}\right)}}$

B $P_0 = \frac{P}{e^{\left(\frac{r}{t \cdot 7}\right)}}$

C $P_0 = \frac{e^{\left(r \cdot \frac{t}{7}\right)}}{P}$