Name

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

1 Solve for the final population given this model of a continuous growth of a rabbit population?

$$P = 400 \cdot e^{(0.09 \cdot 8 \cdot 4)}$$

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

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

$$P = 200 \cdot e^{(0.03 \cdot \frac{4}{12})}$$

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

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

$$P = 300 \cdot e^{(0.06 \cdot 8 \cdot 12)}$$

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

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

$$V = 800 \cdot e^{(0.07 \cdot 5 \cdot 7)}$$

A	$V = V_0 - e^{(r \cdot \frac{t}{7})}$	B	$V = V_0 \cdot e^{(r \cdot t \cdot 7)}$
C	$V = V_0 \cdot e^{(\frac{r}{t \cdot 7})}$		

5 Solve for the final debt given this model of a growth of debt on a credit card with continuous compounding?

$$D = 500 \cdot e^{(0.06 \cdot 2 \cdot 4)}$$

A	$D = D_0 - e^{(r \cdot \frac{t}{4})}$	B	$D = D_0 \cdot e^{(\frac{r}{t \cdot 4})}$
C	$D = D_0 \cdot e^{(r \cdot t \cdot 4)}$		

6 Solve for the final price given this model of a continuously compounding growth of a share price?

$$S = 700 \cdot e^{(0.02 \cdot 5 \cdot 3)}$$

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

7 Solve for the final population given this model of a continuous growth of an insect population?

$$P = 300 \cdot e^{(0.09 \cdot \frac{2}{7})}$$

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

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

8 Solve for the final price given this model of a continuously compounding growth of a share price?

$$S = 800 \cdot e^{(0.07 \cdot \frac{9}{4})}$$

A $S = S_0 \cdot e^{(r \cdot \frac{t}{4})}$

B $S = S_0 \cdot e^{(\frac{r}{\frac{t}{4}})}$