Name ____________________

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

1

A social media post starts with 600 views. Its view count grows continually by 5% each year.After 7 months it has a larger number of views.

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

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

2

A company's share price starts at $600. It grows continuously at 2% growth per month. After 9 years it has increased to a certain share price.

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

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

3

An app starts with 200 downloads. Its download count grows continually by 9% each month.After 4 years it has a larger number of downloads.

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

A $A = A_0 \cdot e^{(r \cdot t \cdot 12)}$	B $A = A_0 \cdot e^{(\frac{r}{t \cdot 12})}$
C $A = A_0 - e^{(r \cdot \frac{t}{12})}$	

4

A rabbit population starts at 600. It grows continuously at 8% growth per year. After 9 quarters it has increased to a certain population.

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

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

5

An app starts with 800 downloads. Its download count grows continually by 9% each year.After 5 days it has a larger number of downloads.

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

A $A = A_0 \cdot e^{(r \cdot \frac{t}{365})}$	B $A = A_0 - e^{(r \cdot t \cdot 365)}$
C $A = A_0 \cdot e^{(\frac{r}{\frac{t}{365}})}$	

6

A credit card starts with $800 of debt. It grows continuously at 5% interest per year. After 2 quarters the debt has grown to a certain amount.

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

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

7

A bacteria population starts at 600. It grows continuously at 4% growth per year. After 5 months it has increased to a certain population.

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

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

8

A company's share price starts at $300. It grows continuously at 2% growth per quarter. After 8 months it has increased to a certain share price.

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

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