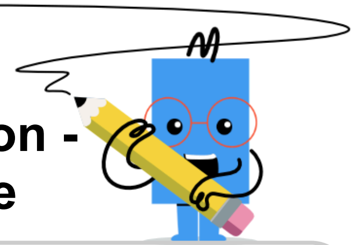
Name ____________________



Exponential Function Solution Equation - Decay (Continuous, Mis-matched Time Units) Equation to Starting Value

1 Rearrange this equation to solve for the starting concentration given this model of a continuous decay of a radioactive material?

$$245 = R_0 \cdot e^{\left(-0.04 \cdot \frac{5}{7}\right)}$$

A $R_0 = \frac{e^{\left(-0.04 \cdot \frac{5}{7}\right)}}{245}$	B $R_0 = \frac{245}{e^{\left(\frac{-0.04}{5 \cdot 7}\right)}}$
C $R_0 = \frac{245}{e^{\left(-0.04 \cdot \frac{5}{7}\right)}}$	

2 Rearrange this equation to solve for the starting concentration given this model of a continuous decay of a radioactive material?

$$266 = R_0 \cdot e^{\left(-0.06 \cdot \frac{2}{7}\right)}$$

A $R_0 = \frac{266}{e^{\left(-0.06 \cdot \frac{2}{7}\right)}}$	B $R_0 = \frac{266}{e^{\left(\frac{-0.06}{2 \cdot 7}\right)}}$
C $R_0 = \frac{e^{\left(-0.06 \cdot \frac{2}{7}\right)}}{266}$	

3 Rearrange this equation to solve for the starting population given this model of a a continuously declining bacteria population?

$$688 = P_0 \cdot e^{\left(-0.05 \cdot \frac{3}{365}\right)}$$

A $P_0 = \frac{e^{\left(-0.05 \cdot \frac{3}{365}\right)}}{688}$	B $P_0 = \frac{688}{e^{\left(-0.05 \cdot \frac{3}{365}\right)}}$
C $P_0 = \frac{688}{e^{\left(\frac{-0.05}{3 \cdot 365}\right)}}$	

4 Rearrange this equation to solve for the starting population given this model of a continuous decline of a whale population?

$$610 = P_0 \cdot e^{(-0.09 \cdot 3 \cdot 4)}$$

A $P_0 = \frac{e^{(-0.09 \cdot 3 \cdot 4)}}{610}$	B $P_0 = \frac{610}{e^{\left(\frac{-0.09}{\frac{3}{4}}\right)}}$
C $P_0 = \frac{610}{e^{(-0.09 \cdot 3 \cdot 4)}}$	

5 Rearrange this equation to solve for the starting concentration given this model of a continuous decay of a radioactive material?

$$510 = R_0 \cdot e^{(-0.09 \cdot 5 \cdot 7)}$$

A $R_0 = \frac{510}{e^{(-0.09 \cdot 5 \cdot 7)}}$	B $R_0 = \frac{510}{e^{\left(\frac{-0.09}{\frac{5}{7}}\right)}}$

6 Rearrange this equation to solve for the starting population given this model of a a continuously declining bacteria population?

$$550 = P_0 \cdot e^{\left(-0.06 \cdot \frac{4}{7}\right)}$$

A $P_0 = \frac{e^{\left(-0.06 \cdot \frac{4}{7}\right)}}{550}$	B $P_0 = \frac{550}{e^{\left(\frac{-0.06}{4 \cdot 7}\right)}}$
C $P_0 = \frac{550}{e^{\left(-0.06 \cdot \frac{4}{7}\right)}}$	

7 Rearrange this equation to solve for the starting population given this model of a continuous decline of a bird population?

$$134 = P_0 \cdot e^{\left(-0.05 \cdot \frac{8}{4}\right)}$$

A $P_0 = \frac{e^{\left(-0.05 \cdot \frac{8}{4}\right)}}{134}$	B $P_0 = \frac{134}{e^{\left(-0.05 \cdot \frac{8}{4}\right)}}$
C $P_0 = \frac{134}{e^{\left(\frac{-0.05}{8 \cdot 4}\right)}}$	

8 Rearrange this equation to solve for the starting population given this model of a a continuously declining bacteria population?

$$666 = P_0 \cdot e^{(-0.05 \cdot 6 \cdot 12)}$$

A $P_0 = \frac{666}{e^{(-0.05 \cdot 6 \cdot 12)}}$	B $P_0 = \frac{666}{e^{\left(\frac{-0.05}{\frac{6}{12}}\right)}}$