



Exponential Function Solution Equation - Decay (Discrete, Mis-matched Time Units) - Equation to Time

1 Rearrange this equation to solve for the time given this model of a balance of a charitable endowment (weekly disbursements)?

$$186 = 700 \cdot (1 - 0.09)^{\left(\frac{t}{7}\right)}$$

A $t = 7 \cdot \frac{\ln 186 \cdot 700}{\ln(1 - 0.09)}$

B $t = \frac{1}{7} \cdot \frac{\ln \frac{186}{700}}{\ln(1 + 0.09)}$

C $t = 7 \cdot \frac{\ln \frac{186}{700}}{\ln(1 - 0.09)}$

D $t = \frac{1}{7} \cdot \frac{\ln \frac{186}{700}}{\ln(1 - 0.09)}$

2 Rearrange this equation to solve for the time given this model of a decline of a toxin concentration (daily dialysis)?

$$4 = 900 \cdot (1 - 0.07)^{\left(\frac{t}{24}\right)}$$

A $t = 24 \cdot \frac{\ln \frac{4}{900}}{\ln(1 - 0.07)}$

B $t = 24 \cdot \frac{\ln 4 \cdot 900}{\ln(1 - 0.07)}$

C $t = \frac{1}{24} \cdot \frac{\ln \frac{4}{900}}{\ln(1 + 0.07)}$

D $t = \frac{1}{24} \cdot \frac{\ln \frac{4}{900}}{\ln(1 - 0.07)}$

3 Rearrange this equation to solve for the time given this model of a balance of a charitable endowment (daily disbursements)?

$$413 = 800 \cdot (1 - 0.09)^{(t \cdot 365)}$$

A $t = \frac{1}{365} \cdot \frac{\ln \frac{413}{800}}{\ln(1 - 0.09)}$

B $t = \frac{1}{365} \cdot \frac{\ln 413 \cdot 800}{\ln(1 - 0.09)}$

C $t = 365 \cdot \frac{\ln \frac{413}{800}}{\ln(1 - 0.09)}$

D $t = 365 \cdot \frac{\ln \frac{413}{800}}{\ln(1 + 0.09)}$

4 Rearrange this equation to solve for the time given this model of a balance of a charitable endowment (yearly disbursements)?

$$0 = 200 \cdot (1 - 0.09)^{\left(\frac{t}{365}\right)}$$

A $t = 365 \cdot \frac{\ln \frac{0}{200}}{\ln(1 - 0.09)}$

B $t = \frac{1}{365} \cdot \frac{\ln \frac{0}{200}}{\ln(1 - 0.09)}$

C $t = 365 \cdot \frac{\ln 0 \cdot 200}{\ln(1 - 0.09)}$

D $t = \frac{1}{365} \cdot \frac{\ln \frac{0}{200}}{\ln(1 + 0.09)}$

5 Rearrange this equation to solve for the time given this model of a decline of a toxin concentration (hourly dialysis)?

$$278 = 400 \cdot (1 - 0.07)^{(t \cdot 24)}$$

A $t = 24 \cdot \frac{\ln \frac{278}{400}}{\ln(1 + 0.07)}$

B $t = 24 \cdot \frac{\ln \frac{278}{400}}{\ln(1 - 0.07)}$

C $t = \frac{1}{24} \cdot \frac{\ln \frac{278}{400}}{\ln(1 - 0.07)}$

D $t = \frac{1}{24} \cdot \frac{\ln 278 \cdot 400}{\ln(1 - 0.07)}$

6 Rearrange this equation to solve for the time given this model of a balance of a charitable endowment (yearly disbursements)?

$$0 = 600 \cdot (1 - 0.08)^{\left(\frac{t}{12}\right)}$$

A $t = \frac{1}{12} \cdot \frac{\ln \frac{0}{600}}{\ln(1 - 0.08)}$

B $t = \frac{1}{12} \cdot \frac{\ln \frac{0}{600}}{\ln(1 + 0.08)}$

C $t = 12 \cdot \frac{\ln \frac{0}{600}}{\ln(1 - 0.08)}$

7 Rearrange this equation to solve for the time given this model of a decline of a toxin concentration (weekly dialysis)?

$$133 = 500 \cdot (1 - 0.09)^{\left(\frac{t}{7}\right)}$$

A $t = 7 \cdot \frac{\ln \frac{133}{500}}{\ln(1 - 0.09)}$

B $t = 7 \cdot \frac{\ln 133 \cdot 500}{\ln(1 - 0.09)}$

C $t = \frac{1}{7} \cdot \frac{\ln \frac{133}{500}}{\ln(1 - 0.09)}$

8 Rearrange this equation to solve for the time given this model of a balance of a charitable endowment (yearly disbursements)?

$$0 = 900 \cdot (1 - 0.03)^{\left(\frac{t}{365}\right)}$$

A $t = 365 \cdot \frac{\ln \frac{0}{900}}{\ln(1 - 0.03)}$

B $t = \frac{1}{365} \cdot \frac{\ln \frac{0}{900}}{\ln(1 + 0.03)}$

C $t = \frac{1}{365} \cdot \frac{\ln \frac{0}{900}}{\ln(1 - 0.03)}$