



Exponential Function Solution Equation - Decay (Discrete) - Equation to Time

1 Rearrange this equation to solve for the time given this model of a decline of a bird population (yearly breeding cycle)?

$$442 = 500 \cdot (1 - 0.04)^{(t)}$$

A	B
$t = \frac{\ln \frac{442}{500}}{\ln (1 - 0.04)}$	$t = \frac{\ln 442 \cdot 500}{\ln (1 - 0.04)}$

2 Rearrange this equation to solve for the time given this model of a decline of a whale population (yearly breeding cycle)?

$$94 = 200 \cdot (1 - 0.08)^{(t)}$$

A	B
$t = \frac{\ln \frac{94}{200}}{\ln (1 + 0.08)}$	$t = \frac{\ln \frac{94}{200}}{\ln (1 - 0.08)}$

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

$$499 = 800 \cdot (1 - 0.09)^{(t)}$$

A	B
$t = \frac{\ln \frac{499}{800}}{\ln (1 - 0.09)}$	$t = \frac{\ln 499 \cdot 800}{\ln (1 - 0.09)}$
C	
$t = \frac{\ln \frac{499}{800}}{\ln (1 + 0.09)}$	

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

$$628 = 900 \cdot (1 - 0.05)^{(t)}$$

A	B
$t = \frac{\ln 628 \cdot 900}{\ln (1 - 0.05)}$	$t = \frac{\ln \frac{628}{900}}{\ln (1 - 0.05)}$
C	
$t = \frac{\ln \frac{628}{900}}{\ln (1 + 0.05)}$	

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

$$114 = 200 \cdot (1 - 0.06)^{(t)}$$

A	B
$t = \frac{\ln \frac{114}{200}}{\ln (1 - 0.06)}$	$t = \frac{\ln 114 \cdot 200}{\ln (1 - 0.06)}$

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

$$458 = 800 \cdot (1 - 0.06)^{(t)}$$

A	B
$t = \frac{\ln \frac{458}{800}}{\ln (1 - 0.06)}$	$t = \frac{\ln 458 \cdot 800}{\ln (1 - 0.06)}$
C	
$t = \frac{\ln \frac{458}{800}}{\ln (1 + 0.06)}$	

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

$$411 = 600 \cdot (1 - 0.09)^{(t)}$$

A	B
$t = \frac{\ln \frac{411}{600}}{\ln (1 - 0.09)}$	$t = \frac{\ln 411 \cdot 600}{\ln (1 - 0.09)}$

8 Rearrange this equation to solve for the time given this model of a decline of a bird population (yearly breeding cycle)?

$$646 = 800 \cdot (1 - 0.03)^{(t)}$$

A	B
$t = \frac{\ln \frac{646}{800}}{\ln (1 - 0.03)}$	$t = \frac{\ln \frac{646}{800}}{\ln (1 + 0.03)}$