

HALF LIFE

A LITTLE INFORMATION ABOUT LOGS

1. $\log_b X$ = THE POWER TO WHICH b IS RAISED IN ORDER TO PRODUCE X

EXAMPLE

$$3^X = 9 \quad \text{WHAT IS } X$$

$$\log_3 9 = 2$$

2. USING LOGS

* $\log_b XY$ CAN BE REWRITTEN AS $\log_b X + \log_b Y$

* $\log_b \frac{X}{Y}$ CAN BE REWRITTEN AS $\log_b X - \log_b Y$

FORMULAS

VARIABLES

A_E = END

A_0 = BEGIN

t = TIME SPAN

$t_{1/2}$ = $\frac{1}{2}$ LIFE

$$1. A_E = A_0 \cdot (.5)^{t/t_{1/2}}$$

$$2. A_0 = \frac{A_E}{(.5)^{t/t_{1/2}}}$$

$$3. t = \frac{\log \frac{A_E}{A_0}}{\log(.5)} \cdot t_{1/2}$$

$$4. t_{1/2} = \frac{\log(.5)}{\log \frac{A_E}{A_0}} \cdot t$$