

$$\log_{10}(Sf) = b \log_{10}(N) + \log_{10}(a)$$

$$\left. \begin{aligned} \log_{10}(450) &= 3b + \log_{10}(a) \\ \log_{10}(180) &= 6b + \log_{10}(a) \end{aligned} \right\} \text{Solve}$$

$$\underline{b = -0.13265} \quad \underline{\log_{10}(a) = 3.0512}$$

$$N = 10^{\left(\frac{\log_{10}(Sf) - 3.0512}{-0.13265} \right)}$$

Subst in $\left| 110, \right| 150 \left| , 300 \left| , 390 \right|$ for Sf

$N \rightarrow \left| 4 \times 10^7 \right| 4 \times 10^6 \left| 2.13 \times 10^4 \left| 2.943 \times 10^3 \right|$

$\underbrace{\hspace{10em}}_{\infty}$
 $\underbrace{\hspace{10em}}_{\text{sortg}}$
 $\underbrace{\hspace{10em}}_{\infty}$

1 block $\frac{4}{4 \times 10^6} + \frac{2}{2.127 \times 10^4} + \frac{1}{2.943 \times 10^3} = \sum \frac{n_i}{N_i}$

$\underbrace{\hspace{10em}}_{\text{not important here}}$

$$\sum \frac{n_i}{N_i} = 0.000435 \Rightarrow \frac{1}{0.000435} \text{ blocks to failure}$$

$$\approx 2299 \text{ blocks} \quad 6 \text{ seconds per block}$$

$$\frac{(2299)(6)}{(60)(60)} = \underline{\underline{\sim 3.8 \text{ hours}}}$$