(21)

$m_0 = 250\ mg \rightarrow t = 0$

$m(t) = Ce^{-kt}$

$250 = Ce^{-k(0)}$ 1

$C = 250$

$200 = 250e^{-k48}$

$\frac{200}{250} = e^{-k48}$

$\frac{\ln(\frac{200}{250})}{-48} = k$

$125 = 250e^{-\ln(200/250)/48\,t}$

$\frac{125}{250} = e^{-\ln(\frac{200}{250})}{48}t$

$\ln(\frac{125}{250}) = \frac{-\ln(\frac{200}{250})}{48}t$

$48\ln(\frac{125}{250}) = t$

$-\ln(\frac{200}{250})$

$149.1016 = t$