



a.  $Q = Q_0 e^{-kt}$

i)  ~~$Q = Q_0 e^{-kt}$~~

~~$3 = Q_0 e^{-k \cdot 15}$~~

ii) half life 15 hrs.

3mg after 15 hrs

0.75mg after <sup>another</sup> 45 min.

∴ one-eighth of the initial dose shall remain after  
19 hours and 15 minutes.

b.

