4.7) $\frac{dy}{dt} + p(t)y = g(t)$ $\quad u(t) = \exp\int p(t)\,dt$

$u\frac{dy}{dt} + u(t)p(t)y = g(t)\,u$

$\frac{d}{dt}(u(t)\cdot y(t)) = u(t)\cdot g(t)$

$u(t)\cdot y(t) = \int (u(t)\cdot g(t))\,dt + C$

$y(t) = \frac{1}{u(t)}\int u(t)\cdot g(t)\,dt + \frac{C}{u(t)}$