% Analytic ODE Solution Example (chap2_ODE_analytic_soln.m)
%
% Find analytic solution to a first-order ordinary differential equation (ODE) by using the MATLAB dsolv() command.
%
clc;
clear;
% Input differential eqn, initial condition, and the independent variable
i = dsolve('Dy = -10*y + 5','y(0) = 2','t')

*****************************************************************************

MATLAB Command Window output

i =

1/2+3/2*exp(-10*t)

>>

Note that this solution is identical to that already found using circuits techniques!