EXAMPLE USING MATLAB COMMAND "DSOLVE"

Solve using the Matlab command "dsolve" the differential equation

\[ t^2 y'' - t y' - 3y = 0. \]

To do this, open Matlab and enter in the Command Window at the >> prompts the following commands.

```matlab
>> syms y(t)
>> eqn = t^2*diff(y, t, 2) - t*diff(y, t) - 3*y == 0

eqn(t) =

\[ t^2 \cdot \text{diff}(y(t), t, t) - t \cdot \text{diff}(y(t), t) - 3y(t) == 0 \]

>> ySol(t) = dsolve(eqn)

ySol(t) =

\[ C1/(4t) + C2* t^3 \]