( In each of the following problems use Maple commands for all operations )

1 / Solve the DE

\[ y' + 2t^{-1}y = t^{-1} \cos(2t), \quad y(\pi) = 0, \quad t > 0 \]

then plot the solution in the interval \([0.5, 20]\).

2 / Solve the DE and plot the solution in the interval \([0.1, 4]\)

\[ y' - (1/t)y = (e^{-t})y^2, \quad y(1) = 1 \]

3 / Solve the DE and plot the solution in the interval \([0, 30]\)

\[ y'' + 0.3y' + 2y = 0, \quad y(0) = 10, \quad y'(0) = 0 \]