

Problem 12

In each of Problems 9 through 12, find the solution of the given initial value problem. Then plot a graph of the solution.

$$y^{(4)} + 2y''' + y'' + 8y' - 12y = 12 \sin t - e^{-t}; \quad y(0) = 3, \quad y'(0) = 0, \quad y''(0) = -1, \quad y'''(0) = 2$$