Method of Undetermined Coefficients (4.5)

1. Find the general solution of the given differential equation. If the initial conditions are given, also find the solution of the initial value problem.

a.
$$y'' + 2y' + 5y = 3\sin 2t$$
.

b.
$$y'' + 9y = 9t^2e^{3t} + 6$$
.