

Problem 25

Let $y = y_1(t)$ be a solution of

$$y' + p(t)y = 0, \quad (\text{i})$$

and let $y = y_2(t)$ be a solution of

$$y' + p(t)y = g(t). \quad (\text{ii})$$

Show that $y = y_1(t) + y_2(t)$ is also a solution of Eq. (ii).