
Math 2150 - Homework # 9

Variation of parameters

1. Find a general solution to the given ODE. Give an interval that the general solution is defined on.

To do this first find the homogeneous solution y_h and then particular solution y_p . Use variation of parameters to find y_p .

(a) $y'' - 4y' + 4y = (x + 1)e^{2x}$

(b) $y'' + y = \sin(x)$

(c) $y'' + y = \sec(x)$

(d) $y'' - 9y = \frac{9x}{e^{3x}}$

(e) $y'' + 3y' + 2y = \frac{1}{1 + e^x}$

(f) $y'' + 3y' + 2y = \sin(e^x)$
