

1. Solve each differential equation by variation of parameters.

(a) $y'' + 16y = \sec^2(4x)$.

(b) $y'' - 9y = 27e^{6x}$.

(c) $y'' + 9y = 18 \tan(3x)$.

(d) $y'' + 9y = 18 \sec(3x)$.

(e) $y'' - 10y' + 25y = \frac{e^{5x}}{1 + x^2}$.

(f) $y'' - 9y = 7e^{4x}$.

(g) $y'' + 12y' + 32y = 16 \sin(e^{4x})$.