

1. Solve following differential equations.

(a) $x^2y'' - xy' - 3y = 0$.

(b) $2x^2y'' - 3xy' + 3y = 0$.

(c) $x^2y'' - 4xy' + 6y = 0$.

(d) $x^2y'' + 8xy' + 12y = -42x^3$.

(e) $x^2y'' - 5xy' + 10y = 0$.

(f) $x^2y'' - 6xy' + 12y = 6x$.