1. Find the general solutons of following Riccati's equatuons, given with one particular solutions.

    (a) $y' + y^2 - 1 = 0, \qquad y_1 = 1.$

    (b) $y' = \dfrac{1}{x}y^2 + 2(\dfrac{1}{x} - 1)y + x - 1, \qquad y_1 = x.$

    (c) $\dfrac{dy}{dx} = -y^2 + 2x^2y + 2x - x^4, \qquad y_1 = x^2.$

    (d) $(1 - x^3)y' - y^2 + x^2y + 2x = 0, \qquad y_1 = -x^2.$

2. Solve following Lagrange and Clairaut differential equations.

    (a) $y - 2xy' + 1 + y'^2 = 0.$

    (b) $y = 3xy' + 6y'^2.$

    (c) $y = xy' - y'^2.$

    (d) $y = xy' + \sqrt{1 + y'^2}.$

    (e) $4y'^3 - 6y'^2 + 9(y - x) = 0.$