(1) Find the recurrence relation for the DE:

\((x^2 + 1)y'' + xy' - y = 0\) about ordinary point \(x = 0\).

(2) Find the regular or irregular singular points

\((x^3 + 4x)y'' - 2xy' + 6xy = 0\).

(3) Find the indicial equation and recurrence relation by Frobenius Method for the DE

\(3xy'' + y' - y = 0\).