

Show all work. 5 points each.

1. Solve the Cauchy-Euler equation $x^2y'' + 5xy' + 4y = 0$

2. Reduce the system of differential equations to one involving just $x(t)$ by elimination and solve. YOU do not have to solve for $y(t)$ or the constants.

$$(D^2 + 5)x - 2y = 0$$

$$-2x + (D^2 + 2)y = 0$$