HOMEWORK #5 (Chapter 3 Higher –Order Differential Equations)

1. $(x-2)y''-(4x-7)y'+(4x-6)y=0$, $y_1=e^{2x}$, Find the general solution.

2. In Problems (a),(b), the indicted function $y_1(x)$ is a solution of the given equation. Use reduction of order or formula (5), as instructed, to find a second solution $y_2(x)$.

   (a). $9y''-12y'+4y=0$, $y_1=e^{\frac{2x}{3}}$ (Problem 7)

   (b). $x^2y''-7xy'+16y=0$, $y_1=x^4$ (Problem 9)