1. Find the particular solution of the following DE:
\[ y'' + 11y' + 24y = 28e^{-x} - 24x + 1 \]

2. The characteristic polynomial of the homogeneous linear DE has the following roots
\[ 1, 1, 0, 3 \pm 2i \]
Find the DE

3. Find the general solution of the DE
\[ y^{(4)} + 6y'' + 9y = 0 \]