Find the general solution $y=y_{p}+y_{c}$ to the following differential equation. Use the Euler-Cauchy method to find $y_{c}$ and use the undetermined coefficients method to find $y_{p}$.

$$
x^{2} \frac{d^{2} y}{d x^{2}}+x \frac{d y}{d x}+y=x+1
$$

