1) Use power series method to solve the equation

$$
\left(3-x^{2}\right) y^{\prime \prime}-4 x y^{\prime}-7 y=0
$$

2) Solve the initial value problem

$$
\left\{\begin{array}{c}
y^{\prime \prime}+y=0 \\
y(0)=1, y^{\prime}(0)=0
\end{array}\right.
$$

