Section 12.1. In $\# 10$, don't follow the instructions in the book. Proceed as follows:

- Use the method of series solution to find a recursion relation for the coefficients.
- Calculate the $O\left(x^{7}\right)$ solution. That is, calculate the power series solution up to and including the $x^{7}$ term. Your answer will depend on the coefficients $a_{0}$ and $a_{1}$.
- What is the $O\left(x^{7}\right)$ solution satisfying the initial conditions $y(0)=2, y^{\prime}(0)=-1$.

