Homework assignment 09/29/03.

1. p. 599 # 10, 13, 18;

2. Use Euler’s method to estimate the value $y(x)$ of the solution of the initial value problem
\[
\begin{aligned}
y'(x) &= y, \\
y(0) &= 1.
\end{aligned}
\]
Use step $h = x/n$, and denote the corresponding Euler’s estimate by $y_n(x)$.
Does the formula for $y_n(x)$ remind you anything?
Find $\lim_{n \to \infty} f_n(1)$.

3. p. 621 # 15, 16, 20, 21