ASSIGNMENT 2
Due February 17, 2004 (before start of class)

Problem 2

Suppose $X$ is a continuous random variable whose values $x$ obey the probability density function

$$f(x) = \begin{cases} 
0 & x \leq 0 \\
\frac{9x^2}{4} & 0 \leq x \leq 1 \\
\frac{1}{2} - \frac{x}{6} & 1 \leq x \leq 2 \\
0 & x \geq 2 
\end{cases}$$

1. Find the cumulative probability distribution function $F(x)$.
2. Calculate the expected value $E(X)$.
3. Calculate the variance $V(X)$. 