Problem 1: Use l'Hôpital's Rule to evaluate the following limits:

$$\lim_{x \to 1} \frac{\sqrt{2-x} - x}{x - 1}$$

$$\lim_{x \to 0} \left(\frac{1}{\sin x} - \frac{1}{x} \right)$$

$$\lim_{x \to 0^+} \frac{\cot x}{\ln x}$$

$$\lim_{x \to 0^+} (\sin x)^{\tan x}$$

Problem 2: For the function $f(x) = x^3 - 3x^2 + 5$, find the local and absolute max/mins on the interval $[-2, 3]$. Use the First Derivative Test to determine any local max/mins and check using the Second Derivative Test.