Differential of enthalpy 1

The total differential of the enthalpy as a function of pressure and entropy is:

For the total differential h as a function of P and s you need to write a small change in h as a function of a small change in s and P : $dh = ...dP + ...ds$. On the ..... you need to have expressions for the change of h with a change of P or s while the other is variable is kept constant. These are the partial derivatives, $\left(\frac{\partial h}{\partial P}\right)_s$ and $\left(\frac{\partial h}{\partial s}\right)_P$. This results in: $dh(s, P) = \left(\frac{\partial h}{\partial s}\right)_p ds + \left(\frac{\partial h}{\partial P}\right)_s dP$. Don't forget to write down the dP and ds!