(a)
$$\frac{\partial s_i}{\partial s_0} \quad \frac{\partial s_{i+1}}{\partial s_0} = \frac{\partial s_{i+1}}{\partial s_i} \frac{\partial s_i}{\partial s_0} \quad \frac{\partial s_n}{\partial s_0} \quad \frac{\partial \mathcal{L}}{\partial s_0}$$

$$(b) \quad \text{a.e.} \quad$$