Let $f: \mathbb{R}^2 \rightarrow \mathbb{R}^3$ be defined by $f(s,t) = (s,t,2s-1)$ with $R = [0,1] \times [0,2]$.

Let $M$ be the smooth surface parametrized by $f$.

Calculate $\sigma(M)$, the surface area of $M$. 