Assigned: 3-23-16

Suppose that $M$ is the surface which is the graph of a function $f : R \to \mathbb{R}$, where $f$ has continuous partial derivatives. Suppose $g : \mathbb{R}^3 \to \mathbb{R}$ is continuous, and let $\phi$ be the 2-form on $M$ given by $\phi = g(x, y, z) dS$. Calculate the pullback of $\phi$ to $R$, i.e. $F^* \phi$. 