Exercise #1: Use Stokes' theorem to evaluate

$$\int\int_S \text{curl}(F) \cdot n\, ds$$

when $F = 2z\mathbf{i} - 3x\mathbf{j} + 4y\mathbf{k}$ and S is that portion of the surface $z = 16 - x^2 - 4y^2$ for $z \geq 0$.