11) S: $\alpha(\theta,\varphi) = (\sin(\theta)\cos\varphi,\ \sin\theta\sin\varphi,\ 2\cos\theta)$

$$\left\| \frac{d\alpha}{\partial} \times \frac{d\alpha}{d\varphi} \right\| d\theta\, d\varphi = dS$$

$$\frac{\partial \alpha}{\partial \theta} = (\cos\theta\cos\varphi,\ \cos\theta\sin\varphi,\ -2\sin\theta)$$

$$\frac{\partial \alpha}{\partial \varphi} = (-\sin\theta\sin\varphi,\ \sin\theta\cos\varphi,\ 0)$$

$$\rightarrow \left\| \frac{d\alpha}{d\theta} \times \frac{d\alpha}{d\varphi} \right\| = \sqrt{-\sin(\theta)^2 \cdot (3\cos(\theta)^2 - 4)}$$

So:

$$\int_0^{2\pi} \int_{-\pi}^{\pi} \left\| \frac{d\alpha}{d\theta} \times \frac{d\alpha}{d\varphi} \right\| d\theta\, d\varphi = \underline{42,35}$$