

例:

有一切邊之圓球至圓球中心形成 ϕ 角, 求此切邊之表面積.

$$\bar{Y} * A = \int_0^{\phi} R \sin \theta * R d\theta$$

$$\therefore A = R * \phi$$

$$\therefore \bar{Y} = \frac{R(1 - \cos \phi)}{\phi}$$

$$\text{Area} = 2\pi * R * \phi * \frac{R(1 - \cos \phi)}{\phi} = 2\pi * R^2 (1 - \cos \phi)$$

此例可用於求整個球體表面積 = $2 * 2\pi * R^2 (1 - \cos 90^\circ) = 4\pi * R^2$

