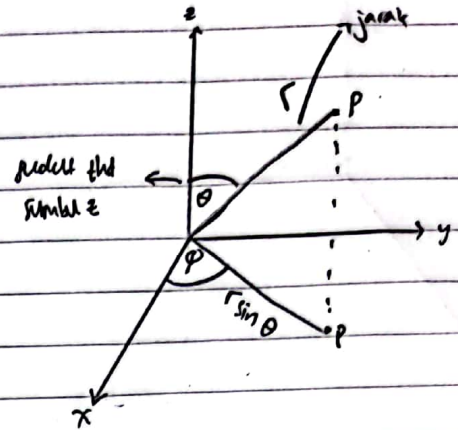
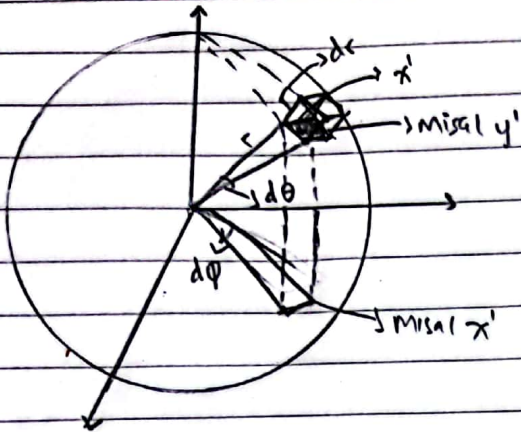


Koordinat Bola (r, θ, ϕ)



bagian terkecil $dr - d\phi - d\theta$

$\sin = \frac{\text{depan}}{\text{miring}}$

$$\sin d\phi = \frac{x'}{r \sin \theta}$$

$$x' = r \sin \theta d\phi$$

$$\sin d\theta = \frac{y'}{r}$$

$$y' = r d\theta$$

kemud. bisa mencari elemen luas dan elemen volumenya, dan elemen panjangnya

$$* dv = dr \cdot r d\theta \cdot r \sin \theta d\phi \quad (v = s^3)$$

$$d. vol = r^2 dr \sin \theta d\theta d\phi$$

$$= r^2 \sin \theta dr d\theta d\phi$$

$$* da = p \times l \quad r d\theta \left[\begin{array}{|c|} \hline \text{misal} \\ \hline \end{array} \right] r \sin \theta d\phi$$

$$d. luas = r d\theta \cdot r \sin \theta d\phi$$

$$= r^2 \sin \theta d\theta d\phi$$

$$* dl = dr^2 + r^2 d\theta^2 + r^2 \sin^2 \theta d\phi^2$$

d. panjang