

## Quiz 8:

$$* V = \frac{4\pi r^3}{3}, \quad * A = 4\pi r^2, \quad * r = 3$$

$$\frac{dV}{dt} = \frac{4\pi}{3} \cdot \cancel{3} r^2 \cdot \frac{dr}{dt} = 4\pi r^2 \frac{dr}{dt}$$

$$36\pi = 4\pi 3^2 \cdot \frac{dr}{dt}$$

$$= 36\pi = 36\pi \frac{dr}{dt}$$

$$* \frac{dr}{dt} = 1$$

$$\begin{aligned} \frac{dA}{dt} &= 4\pi 2r \cdot \frac{dr}{dt} = 8\pi \underbrace{r}_{3} \cdot \underbrace{\frac{dr}{dt}}_1 \\ &= \underline{\underline{24\pi}} \end{aligned}$$

$$* \frac{dA}{dt} = 24\pi \text{ cm}^2/\text{s}$$