If $V = 8\pi r^2$, what is the correct expression

for $\frac{dV}{dt}$

Since π & 8 are constants we can use the

constant rule $\frac{d}{dx} C u^2 = C \cdot \frac{d}{dx} u^2$

then the product rule on u^2

$$\therefore \frac{dV}{dt} = 8\pi \frac{dV}{dt} r^2 \cdot$$

$$= 8\pi 2r$$

$$= 16\pi r$$