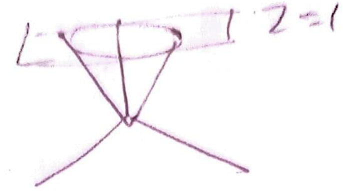
Use divergence theorem



$$\iint_S F\cdot\hat{n}\,dS = \iiint \nabla F\,dV$$

$$= \iiint 2+2z\,dV = 2\iint_A \int_{z=\sqrt{x^2+y^2}}^{1} (1+z)\,dz\,dA$$

$A: x^2+y^2=1$

$$\Rightarrow 2\iint_A \left[z+\frac{z^2}{2}\right]_{\sqrt{x^2+y^2}}^{1} dA$$

$$\Rightarrow 2\iint \left(1+\frac{1}{2}\right) - \left(\sqrt{x^2+y^2}+\frac{x^2+y^2}{2}\right) dA$$

$$\Rightarrow 2\iint \frac{3}{2}\,dA - 2\int_{\theta=0}^{2\pi}\int_{r=0}^{1} \left(r+\frac{r^2}{2}\right) r\,dr\,d\theta$$

$$\Rightarrow \cancel{2}\times\frac{3}{\cancel{2}}\times\pi - 2\times 2\pi\times\left[\frac{r^3}{3}+\frac{r^4}{8}\right]_0^1 \Rightarrow 3\pi - 4\pi\left[\frac{1}{3}+\frac{1}{8}\right]$$

$$\Rightarrow 3\pi - \frac{4\pi}{24}\times(11) \Rightarrow \frac{72\pi - 44\pi}{24}$$

$$\Rightarrow \boxed{\frac{7\pi}{6}}$$ A