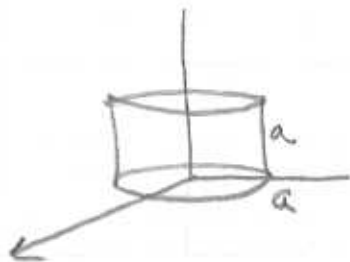


Page 899 #8

$$\operatorname{div} \vec{F} = 10$$



$$\text{Flux} = \int_S \vec{F} \cdot d\vec{A} = \int_W \operatorname{div} \vec{F} dV$$

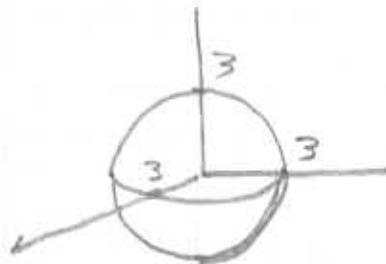
$$= \int_W 10 dV = 10V = 10(\pi a^2)a = \boxed{10\pi a^3}$$

---

Page 899 #10

$$\vec{F} = z\vec{i} + y\vec{j} + x\vec{k}$$

$$\operatorname{div} \vec{F} = 0 + 1 + 0 = 1$$



$$\text{Flux} = \int_S \vec{F} \cdot d\vec{A} = \int_W \operatorname{div} \vec{F} dV$$

$$= \int_W 1 dV = V = \frac{4}{3}\pi(3)^3 = \boxed{36\pi}$$