

$$1) \operatorname{div}(\operatorname{curl}(F)) = 0$$

$$2) \operatorname{div}(F) = 2 + 2 + 2 = 6 \quad D = \{ (x, y, z) \mid 0 \leq x \leq 4$$

$$0 \leq y \leq 4$$

$$0 \leq z \leq 5$$

$$\int_0^5 \int_0^4 \int_0^4 6 \, dx \, dy \, dz = 6 \cdot 4 \cdot 4 \cdot 5 = 120$$