

The Divergence Theorem

Question

If $\vec{F} = \frac{x\vec{i} + y\vec{j}}{1 + x^2 + y^2}$ on \mathbb{R}^3 and W is the solid cylinder shown, compute

$$\iiint_W \operatorname{div}(\vec{F}) dV.$$

- A. 0
- B. 8π
- C. 12π
- D. 16π
- E. There is not enough information.

