

$$\vec{A} = \{2x, -y, z\}$$

N 3

$$\zeta: y = \sqrt{1-x^2-z^2} \quad y \geq 0$$

↑

$$x^2 + y^2 + z^2 = 1$$

ПОЛУСФЕРА

$$r = 1$$

$$\Phi = \iiint_V \operatorname{div} \vec{A} \, dx \, dy \, dz \ominus$$

$$\operatorname{div} \vec{A} = (2x)'_x + (-y)'_y + (z)'_z = 2 - 1 + 1 = 2$$

$$\ominus 2 \iiint_V dx \, dy \, dz = 2 \iiint_V dv = \left(2 \cdot \frac{4}{3} \cdot \pi \cdot 1^3 \right) \frac{1}{2} =$$

$$= \frac{4\pi}{3}$$

$$\text{ОТВЕТ: } \frac{4\pi}{3}$$

$$\vec{u} = \{y^2 + x^2, xz, -z^2\}$$

N 4

$$M(-9, 1, 0)$$

$$\operatorname{div} \vec{u} = 2x + 0 - 2z = 2x - 2z$$

$$M: \operatorname{div} \vec{u} = 2 \cdot (-9) - 2 \cdot 0 = -18$$

$$\operatorname{div} \vec{u} = 0 \quad \text{тогда ко} \quad \text{при} \quad x = z$$