

## 12. Gyak.

térfogati integrálok, integrál transzformáció  
( $dV \equiv d(x, y, z)$ )

1.

$$\iiint_M (1 - x - z) dV = ?$$

$$M = \{(x, y, z) \in \mathbb{R}^3 \mid 0 \leq x \leq 1, 0 \leq y \leq 1, 0 \leq z \leq x^2 + y^2 + 2\}$$

2.

$$\int_0^1 \int_0^{1-x} \int_0^{1-x-y} \frac{1}{(1+x+y+z)^3} dV = ?$$

(Mi a tartomány?)

3.

$$\iiint_V x^2 y z dx dy dz = ? \quad V : x^2 + y^2 + z^2 \leq 1, x \leq 0, y \leq 0, z \leq 0$$

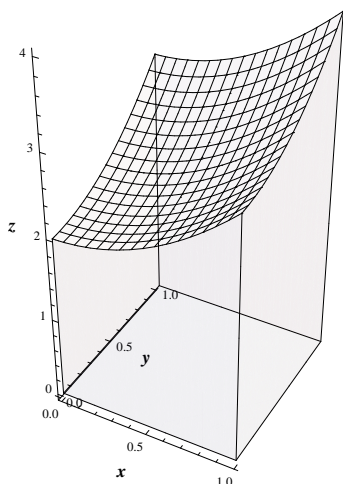
4.

$$\iiint_M (\sqrt{y^2 + z^2} + x) dV = ?$$

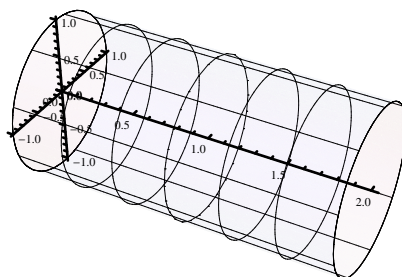
$$M = \{(x, y, z) \in \mathbb{R}^3 \mid 0 \leq x \leq 2, y^2 + z^2 \leq 1\}$$

5.

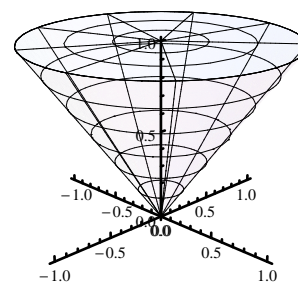
$$\iiint_M (\sin \sqrt{x^2 + y^2} + 2z) dV = ?$$



1. feladat



4. feladat



5. feladat