

Ülesanne. Leidke silinderpinna $x^2 + y^2 = 2x$ selle osa pindala, mis asub sfääri $x^2 + y^2 + z^2 = 4$ sees.

$a := 2.5$

$$\text{telg}(x1, y1, z1, x2, y2, z2) := \begin{bmatrix} (x1 \ x2) \\ (y1 \ y2) \\ (z1 \ z2) \end{bmatrix}$$

$$Ox := \text{telg}(-a, 0, 0, a, 0, 0)$$

$$Oy := \text{telg}(0, -a, 0, 0, a, 0)$$

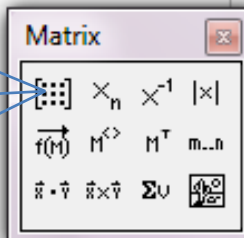
$$Oz := \text{telg}(0, 0, -a, 0, 0, a)$$

Joon $x^2 + y^2 = 2x$ parameetrilisel kujul

$$\text{silinder}(t, z) := \begin{bmatrix} 2 \cdot \cos(t) \cos(t) \\ 2 \cdot \cos(t) \sin(t) \\ z \cdot \sqrt{4 - (2 \cos(t))^2} \end{bmatrix}$$

$$\text{sfaar}(u, v) := \begin{bmatrix} 2 \cdot \cos(u) \cdot \sin(v) \\ 2 \sin(u) \cdot \sin(v) \\ 2 \cdot \cos(v) \end{bmatrix}$$

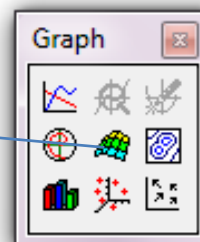
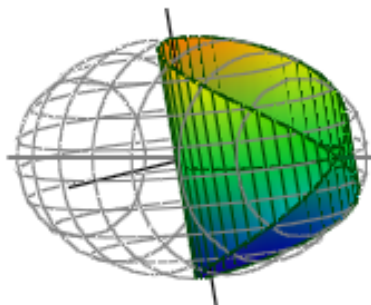
Lõikejoon sfääriga



$\text{Silinder} := \text{CreateMesh}(\text{silinder}, 0, 2\pi, -1, 1, 40, 3)$

$\text{Sfaar} := \text{CreateMesh}(\text{sfaar}, 0, 2\pi, 0, \pi, 20, 20)$

$x^2 + y^2 = 2x$ osa, mis on $x^2 + y^2 + z^2 = 4$ sees



Ox, Oy, Oz, Silinder, Sfaar