15.6 # 34 (sort of)

$$\int_0^1 \int_0^{1-x^2} \int_0^{1-x} 1 \, dy \, dz \, dx$$

$$\frac{5}{12} \tag{1}$$

$$\int_0^1 \int_0^{\sqrt{1-z}} \int_0^{1-x} 1 \, dy \, dx \, dz$$

$$\frac{5}{12} \tag{2}$$

$$\int_0^1 \int_{-\sqrt{1-z}+1}^{1} \int_0^{1-y} 1 \, dx \, dy \, dz + \int_0^1 \int_0^{1-\sqrt{1-z}} \int_0^{\sqrt{1-z}} 1 \, dx \, dy \, dz$$

$$\frac{5}{12} \tag{3}$$

$$\int_0^1 \int_0^{1-(y-1)^2} \int_0^{1-y} 1 \, dx \, dz \, dy + \int_0^1 \int_{1-(y-1)^2}^{1} \int_0^{\sqrt{1-z}} 1 \, dx \, dz \, dy$$

$$\frac{5}{12} \tag{4}$$

$$\int_0^1 \int_0^{1-y} \int_0^{1-x^2} 1 \, dz \, dx \, dy$$

$$\frac{5}{12} \tag{5}$$

$$\int_0^1 \int_0^{1-x} \int_0^{1-x^2} 1 \, dz \, dy \, dx$$

$$\frac{5}{12} \tag{6}$$

$with(LinearAlgebra)$:
$A := \langle \langle 1, 1 \rangle | \langle 1, -1 \rangle | \langle u, v \rangle \rangle$

$$A := \begin{bmatrix} 1 & 1 & u \\ 1 & -1 & v \end{bmatrix} \tag{7}$$

$ReducedRowEchelonForm(A)$

$$\begin{bmatrix} 1 & 0 & \frac{v}{2} + \frac{u}{2} \\ 0 & 1 & -\frac{v}{2} + \frac{u}{2} \end{bmatrix} \tag{8}$$