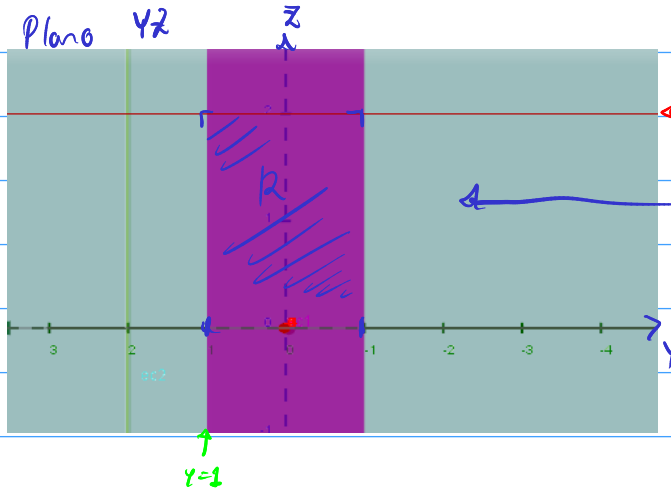
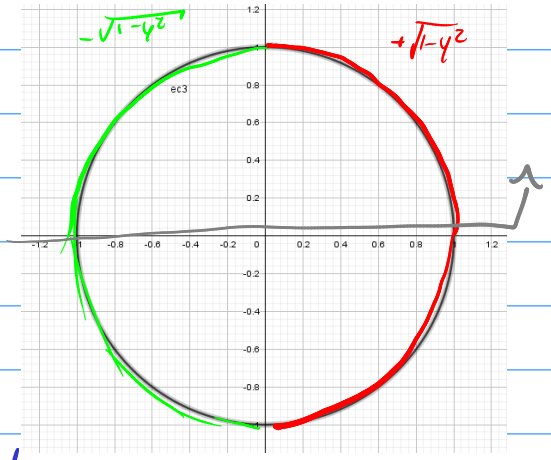
Pregunta 6



Despejamos x

$x^2+y^2=1$ $\qquad$ $x+y=3$

$x=\pm\sqrt{1-y^2}$ $\qquad$ $x=3-y$



$$V=\int_{-1}^{0}\int_{0}^{2}\int_{-\sqrt{1-y^2}}^{3-y} dx\,dz\,dy+\int_{0}^{1}\int_{0}^{2}\int_{\sqrt{1-y^2}}^{3-x} dx\,dz\,dy$$

$$V=\int_{-1}^{0}\int_{0}^{2} 3-y+\sqrt{1-y^2}\,dz\,dy+\int_{0}^{1}\int_{0}^{2} 3-y-\sqrt{1-y^2}\,dz\,dy$$

$$V=\int_{-1}^{0}\left(3-y+\sqrt{1-y^2}\right)z\Big|_0^2\,dy+\int_{0}^{1}\left(3-y-\sqrt{1-y^2}\right)z\Big|_0^2\,dy$$

$$V=\int_{-1}^{0}2\left(3-y+\sqrt{1-y^2}\right)dy+\int_{0}^{1}2\left(3-y-\sqrt{1-y^2}\right)dy$$

$$V = 2\left[\int_{-1}^{0}\left(3-y+\sqrt{1-y^2}\right)dy + \int_{0}^{1}\left(3-y-\sqrt{1-y^2}\right)dy\right]$$

$$V = 2 \cdot 4{,}28 + 2 \cdot 1{,}71$$

$$V = 11{,}98\ ul^3$$