SUPERFICIES CUÁDRICAS
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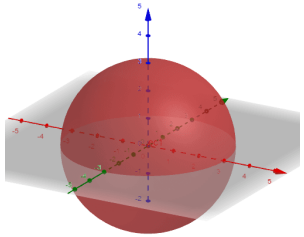
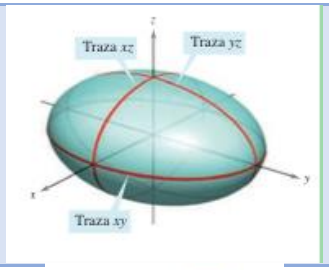
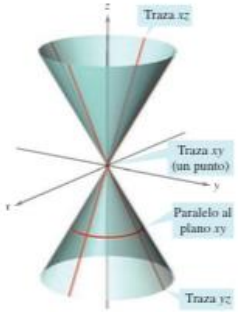
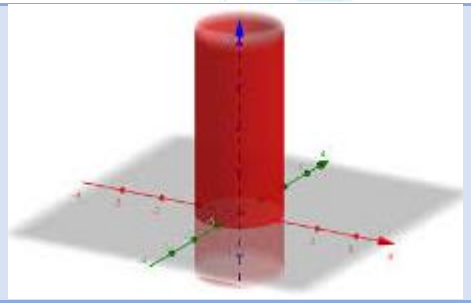
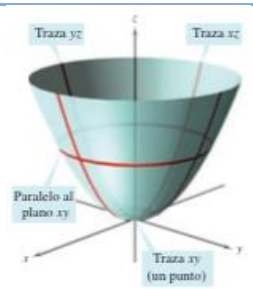
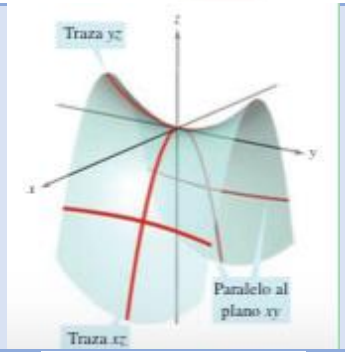
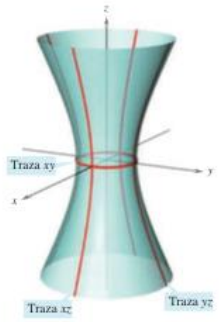
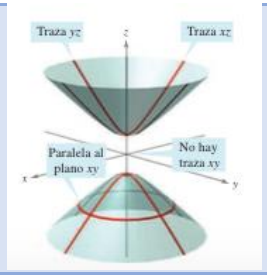
Grupo: 23

Superficie	Figura	Ecuación cartesiana	Ecuación paramétrica
Esfera		$x^2+y^2+z^2=r^2$	$\begin{cases} x = r\cos\varphi\cos\theta, & 0 \le \theta < 2\pi \\ y = r\cos\varphi\,\mathrm{sen}\,\theta, & -\frac{\pi}{2} \le \varphi \le \frac{\pi}{2} \\ z = r\,\mathrm{sen}\,\varphi, \end{cases}$
Elipsoide		$\frac{x^2}{a^2}+\frac{y^2}{b^2}+\frac{z^2}{c^2}=1$	$x = a\cos u\cos v$ $y = b\cos u\,\mathrm{sen}\,v$ $z = c\,\mathrm{sen}\,u$ $-\pi/2 < u < \pi/2$ $0 < v < 2\pi$
Cono		$\frac{x^2}{a^2}+\frac{y^2}{b^2}-\frac{z^2}{c^2}=0$	$x = au\cos u$ $y = au\,\mathrm{sen}\,v$ $z = u$ $-\Phi < u < \Phi$ $0 < v < 2\pi$
Cilindro		$x^2 + y^2 = 1$	$x = a\cos u$ $y = a\,\mathrm{sen}\,v$ $z = u$ $-\Phi < u < \Phi$ $0 < v < 2\pi$

Paraboloide elíptico		$z = \frac{x^2}{a^2} + \frac{y^2}{b^2}$	$x = au \cos v$ $y = bu \operatorname{sen} v$ $z = u^2$ $0 < u < \Phi$ $0 < v < 2\pi$
Paraboloide hiperbólico		$z = \frac{y^2}{b^2} - \frac{x^2}{a^2}$	$x = au$ $y = bv$ $z = u^2 - v^2$ $-\Phi < u < \Phi$ $-\Phi < v < \Phi$
Hiperboloide de un manto		$\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1$	$x = a \cosh u \cos v$ $y = b \cosh u \operatorname{sen} v$ $z = c \operatorname{senh} u$ $\Phi < u < \Phi$ $0 < v < 2\pi$
Hiperboloide de dos mantos		$\frac{z^2}{c^2} - \frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$	$x = a \operatorname{senh} u \cos v$ $y = b \operatorname{senh} u \operatorname{sen} v$ $z = c \cosh u$ $0 < u < \Phi$ $0 < v < 2\pi$