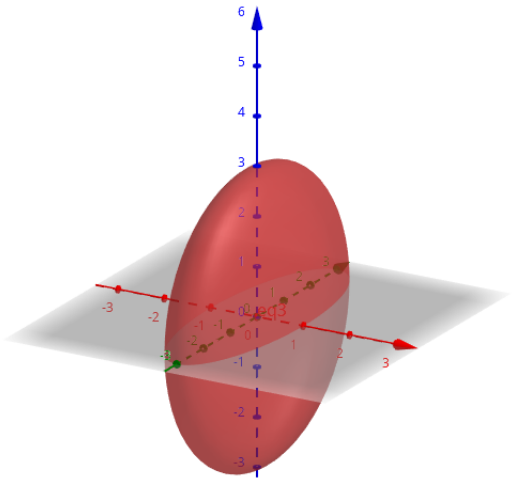
1. *a)* $x^2 + \frac{y^2}{4} + \frac{z^2}{9} = 1$

- $\overset{z=-2}{\Rightarrow} x^2 + \frac{y^2}{9} + \frac{4}{9} = 1$ Una elipse
- $\overset{z=-1}{\Rightarrow} x^2 + \frac{y^2}{9} + \frac{1}{9} = 1$ Una elipse
- $\overset{z=0}{\Rightarrow} x^2 + \frac{y^2}{9} = 1$ Circulo
- $\overset{z=1}{\Rightarrow} x^2 + \frac{y^2}{9} + \frac{1}{9} = 1$ Una elipse
- $\overset{z=2}{\Rightarrow} x^2 + \frac{y^2}{9} + \frac{4}{9} = 1$ Una elipse

- $\overset{y=-2}{\Rightarrow} x^2 + \frac{4}{9} + \frac{z^2}{9} = 1$ Una elipse
- $\overset{y=-1}{\Rightarrow} x^2 + \frac{1}{9} + \frac{z^2}{9} = 1$ Una elipse
- $\overset{y=0}{\Rightarrow} x^2 + \frac{z^2}{9} = 1$ Circulo
- $\overset{y=1}{\Rightarrow} x^2 + \frac{1}{9} + \frac{z^2}{9} = 1$ Una elipse
- $\overset{y=2}{\Rightarrow} x^2 + \frac{4}{9} + \frac{z^2}{9} = 1$ Una elipse

- $\overset{x=-2}{\Rightarrow} 4 + \frac{y^2}{9} + \frac{z^2}{9} = 1$ Circulo
- $\overset{x=-1}{\Rightarrow} 1 + \frac{y^2}{9} + \frac{z^2}{9} = 1$ Circulo
- $\overset{x=0}{\Rightarrow} \frac{y^2}{9} + \frac{z^2}{9} = 1$ Circulo
- $\overset{x=1}{\Rightarrow} 1 + \frac{y^2}{9} + \frac{z^2}{9} = 1$ Circulo
- $\overset{x=2}{\Rightarrow} 4 + \frac{y^2}{9} + \frac{z^2}{9} = 1$ Circulo



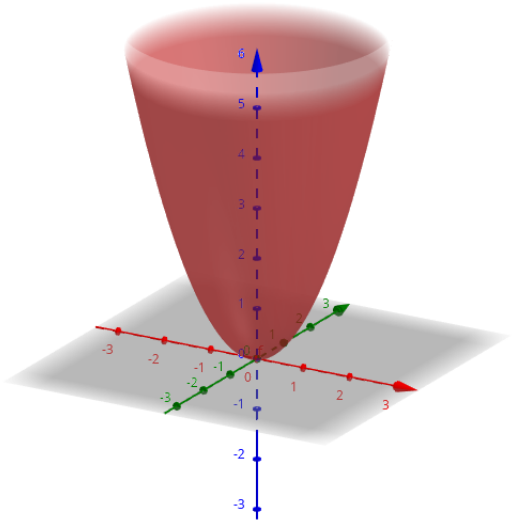
b) $z = x^2 + y^2$

- $\overset{z=0}{\Rightarrow} x^2 + y^2 = 0$ un punto
- $\overset{z=1}{\Rightarrow} x^2 + y^2 = 1$ Un circulo con centro en (0,0) y radio 1
- $\overset{z=2}{\Rightarrow} x^2 + y^2 = 2$ Un circulo con centro en (0,0) y radio $\sqrt{(2)}$

- $\overset{y=-2}{\Rightarrow} x^2 + 4 = z$ Una parabola
- $\overset{y=-1}{\Rightarrow} x^2 + 1 = z$ Una parabola
- $\overset{y=0}{\Rightarrow} x^2 + 0 = z$ Una parabola
- $\overset{y=1}{\Rightarrow} x^2 + 1 = z$ Una parabola

- $\overset{y=2}{\Rightarrow} x^2 + 4 = z$ Una parabola

- $\overset{x=-2}{\Rightarrow} 4 + y^2 = z$ Una parabola
- $\overset{x=-1}{\Rightarrow} 1 + y^2 = z$ Una parabola
- $\overset{x=0}{\Rightarrow} 0 + y^2 = z$ Una parabola
- $\overset{x=1}{\Rightarrow} 1 + y^2 = z$ Una parabola
- $\overset{x=2}{\Rightarrow} 4 + y^2 = z$ Una parabola

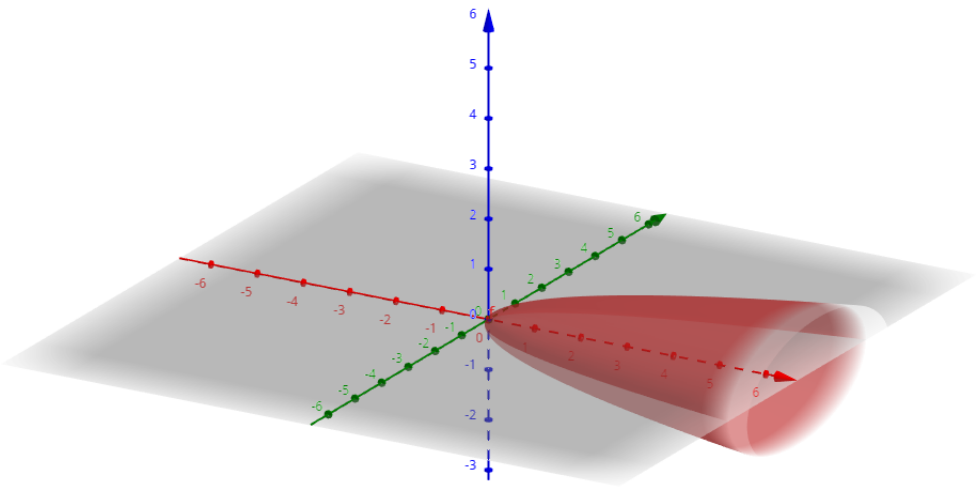


c) $x = y^2 + 4z^2$

- $\overset{z=-2}{\Rightarrow} x = y^2 + 16$ Una parabola
- $\overset{z=-1}{\Rightarrow} x = y^2 + 4$ Una parabola
- $\overset{z=0}{\Rightarrow} x = y^2+$ Una parabola
- $\overset{z=1}{\Rightarrow} x = y^2 + 4$ Una parabola
- $\overset{z=2}{\Rightarrow} x = y^2 + 16$ Una parabola

- $\overset{y=-2}{\Rightarrow} x = 4 + 4z^2$ Una parabola
- $\overset{y=-1}{\Rightarrow} x = 1 + 4z^2$ Una parabola
- $\overset{y=0}{\Rightarrow} x = 0 + 4z^2$ Una parabola
- $\overset{y=1}{\Rightarrow} x = 1 + 4z^2$ Una parabola
- $\overset{y=2}{\Rightarrow} x = 4 + 4z^2$ Una parabola

- $\overset{x=0}{\Rightarrow} x = y^2 + 4z^2$ Un punto
- $\overset{x=1}{\Rightarrow} 1 = y^2 + 4z^2$ Una elipse
- $\overset{x=2}{\Rightarrow} 2 = y^2 + 4z^2$ Una elipse

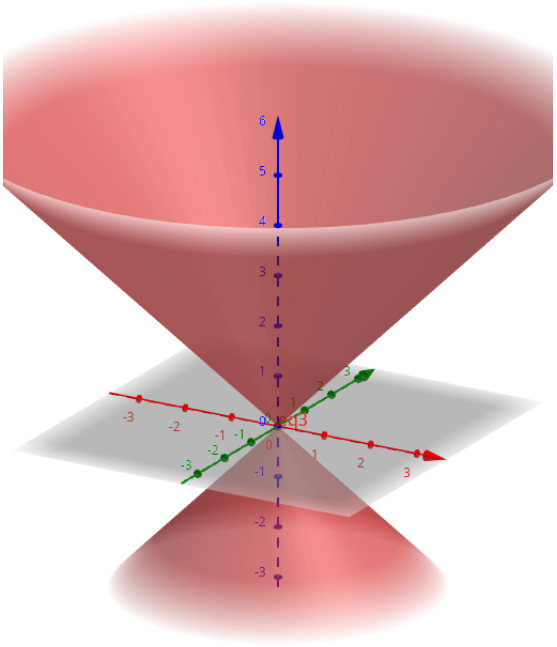


d) $z^2 = x^2 + y^2$

- $\overset{z=-2}{\Rightarrow} 4 = x^2 + y^2$ Un circulo con centro en (0,0) y radio $\sqrt{(2)}$
- $\overset{z=-1}{\Rightarrow} 1 = x^2 + y^2$ Un circulo con centro en (0,0) y radio 1
- $\overset{z=0}{\Rightarrow} 0 = x^2 + y^2$ Un punto
- $\overset{z=1}{\Rightarrow} 1 = x^2 + y^2$ Un circulo con centro en (0,0) y radio 1
- $\overset{z=2}{\Rightarrow} 4 = x^2 + y^2$ Un circulo con centro en (0,0) y radio $\sqrt{(2)}$

- $\overset{y=-2}{\Rightarrow} z^2 - x^2 = 4$ Hiperbola
- $\overset{y=-1}{\Rightarrow} z^2 - x^2 = 1$ Hiperbola
- $\overset{y=0}{\Rightarrow} z^2 - x^2 = 0$ Una X
- $\overset{y=1}{\Rightarrow} z^2 - x^2 = 1$ Hiperbola
- $\overset{y=2}{\Rightarrow} z^2 - x^2 = 4$ Hiperbola

- $\overset{x=-2}{\Rightarrow} z^2 - y^2 = 4$ Hiperbola
- $\overset{x=-1}{\Rightarrow} z^2 - y^2 = 1$ Hiperbola
- $\overset{x=0}{\Rightarrow} z^2 - y^2 = 0$ Una x
- $\overset{x=1}{\Rightarrow} z^2 - y^2 = 1$ Hiperbola
- $\overset{x=2}{\Rightarrow} z^2 - y^2 = 4$ Hiperbola

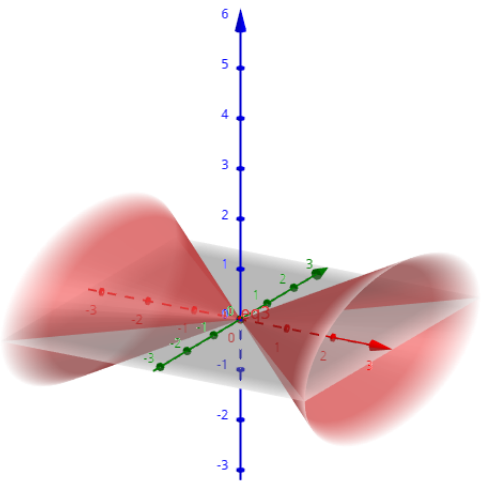


e) $x^2 = y^2 + 4z^2$

- $\overset{z=-2}{\Rightarrow} x^2 = y^2 + 16$ Hiperbola
- $\overset{z=-1}{\Rightarrow} x^2 = y^2 + 4$ Hiperbola
- $\overset{z=0}{\Rightarrow} x^2 = y^2$ Un punto
- $\overset{z=1}{\Rightarrow} x^2 = y^2 + 4$ Hiperbola
- $\overset{z=2}{\Rightarrow} x^2 = y^2 + 16$ Hiperbola

- $\overset{y=-2}{\Rightarrow} x^2 = 4 + 4z^2$ Hiperbola
- $\overset{y=-1}{\Rightarrow} x^2 = 1 + 4z^2$ Hiperbola
- $\overset{y=0}{\Rightarrow} x^2 = 4z^2$ Una X
- $\overset{y=1}{\Rightarrow} x^2 = 1 + 4z^2$ Hiperbola
- $\overset{y=2}{\Rightarrow} x^2 = 4 + 4z^2$ Hiperbola

- $\overset{x=-2}{\Rightarrow} 4 = y^2 + 4z^2$ Un elipse
- $\overset{x=-1}{\Rightarrow} 1 = y^2 + 4z^2$ Un elipse
- $\overset{x=0}{\Rightarrow} 0 = y^2 + 4z^2$ Un punto
- $\overset{x=1}{\Rightarrow} 1 = y^2 + 4z^2$ Un elipse
- $\overset{x=2}{\Rightarrow} 4 = y^2 + 4z^2$ Un elipse

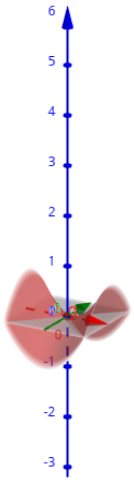


$f)\ z = x^2 - y^2$

- $\overset{z=-2}{\Rightarrow} -2 = x^2 - y^2$ Hiperbola
- $\overset{z=-1}{\Rightarrow} -1 = x^2 - y^2$ Hiperbola
- $\overset{z=0}{\Rightarrow} y^2 = x^2$ Ejes de 45°
- $\overset{z=1}{\Rightarrow} 1 = x^2 - y^2$ Hiperbola
- $\overset{z=2}{\Rightarrow} 2 = x^2 - y^2$ Hiperbola

- $\overset{y=-2}{\Rightarrow} z = x^2 - 4$ Parabola
- $\overset{y=-1}{\Rightarrow} z = x^2 - 1$ Parabola
- $\overset{y=0}{\Rightarrow} z = x^2 - 0$ Parabola
- $\overset{y=1}{\Rightarrow} z = x^2 - 1$ Parabola
- $\overset{y=2}{\Rightarrow} z = x^2 - 4$ Parabola

- $\overset{x=-2}{\Rightarrow} z = 4 - y^2$ Parabola
- $\overset{x=-1}{\Rightarrow} z = 1 - y^2$ Parabola
- $\overset{x=0}{\Rightarrow} z = 0 - y^2$ Parabola
- $\overset{x=1}{\Rightarrow} z = 1 - y^2$ Parabola
- $\overset{x=2}{\Rightarrow} z = 4 - y^2$ Parabola

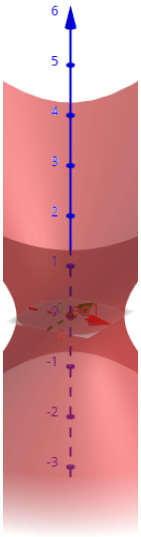


$g)\ x^2 + y^2 - z^2 = 1$

- $\overset{z=-2}{\Rightarrow} x^2 + y^2 - 4 = 1$ Circulo
- $\overset{z=-1}{\Rightarrow} x^2 + y^2 - 1 = 1$ Circulo
- $\overset{z=0}{\Rightarrow} x^2 + y^2 - 0 = 1$ Circulo
- $\overset{z=1}{\Rightarrow} x^2 + y^2 - 1 = 1$ Circulo
- $\overset{z=2}{\Rightarrow} x^2 + y^2 - 4 = 1$ Circulo

- $\overset{y=-2}{\Rightarrow} x^2 + 4 - z^2 = 1$ Hiperbola
- $\overset{y=-1}{\Rightarrow} x^2 + 1 - z^2 = 1$ Hiperbola
- $\overset{y=0}{\Rightarrow} x^2 + 0 - z^2 = 1$ Hiperbola
- $\overset{y=1}{\Rightarrow} x^2 + 1 - z^2 = 1$ Hiperbola
- $\overset{y=2}{\Rightarrow} x^2 + 4 - z^2 = 1$ Hiperbola

- $\overset{x=-2}{\Rightarrow} 4 + y^2 - z^2 = 1$ Hiperbola
- $\overset{x=-1}{\Rightarrow} 1 + y^2 - z^2 = 1$ Hiperbola
- $\overset{x=0}{\Rightarrow} 0 + y^2 - z^2 = 1$ Hiperbola
- $\overset{x=1}{\Rightarrow} 1 + y^2 - z^2 = 1$ Hiperbola
- $\overset{x=2}{\Rightarrow} 4 + y^2 - z^2 = 1$ Hiperbola

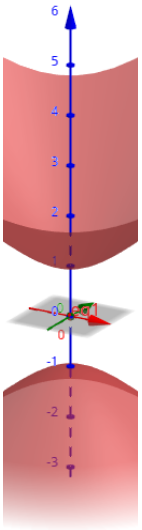


$h)\ -x^2 - y^2 + z^2 = 1$

- $\overset{z=-2}{\Rightarrow} -x^2 - y^2 + 4 = 1$ Circulo
- $\overset{z=-1}{\Rightarrow} -x^2 - y^2 + 2 = 1$ Circulo
- $\overset{z=0}{\Rightarrow} -x^2 - y^2 + 1 = 1$ Circulo
- $\overset{z=1}{\Rightarrow} -x^2 - y^2 + 2 = 1$ Circulo
- $\overset{z=2}{\Rightarrow} -x^2 - y^2 + 4 = 1$ Circulo

- $\overset{y=-2}{\Rightarrow} -x^2 - 4 + z^2 = 1$ Hiperbola
- $\overset{y=-1}{\Rightarrow} -x^2 - 2 + z^2 = 1$ Hiperbola
- $\overset{y=0}{\Rightarrow} -x^2 - 1 + z^2 = 1$ Hiperbola
- $\overset{y=1}{\Rightarrow} -x^2 - 2 + z^2 = 1$ Hiperbola
- $\overset{y=2}{\Rightarrow} -x^2 - 4 + z^2 = 1$ Hiperbola

- $\overset{x=-2}{\Rightarrow} -4 - y^2 + z^2 = 1$ Hiperbola
- $\overset{x=-1}{\Rightarrow} -2 - y^2 + z^2 = 1$ Hiperbola
- $\overset{x=0}{\Rightarrow} -1 - y^2 + z^2 = 1$ Hiperbola
- $\overset{x=1}{\Rightarrow} -2 - y^2 + z^2 = 1$ Hiperbola
- $\overset{x=2}{\Rightarrow} -4 - y^2 + z^2 = 1$ Hiperbola

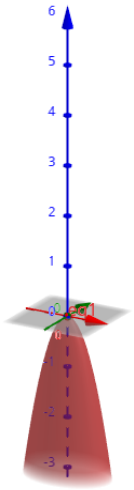


i) $4x^2 + 9y^2 + z = 0$

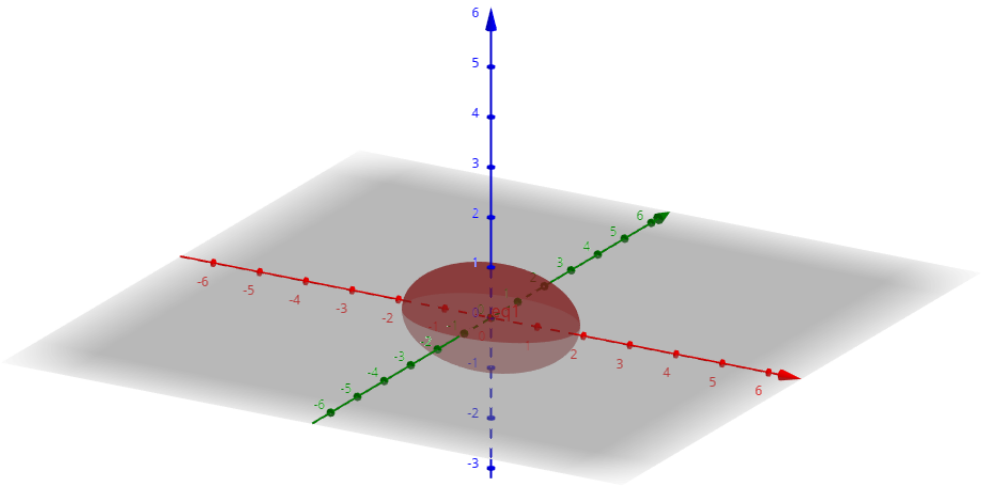
- $\overset{z=-2}{\Rightarrow} 4x^2 + 9y^2 + (-2) = 0$ Elipse
- $\overset{z=-1}{\Rightarrow} 4x^2 + 9y^2 + (-1) = 0$ Elipse
- $\overset{z=0}{\Rightarrow} 4x^2 + 9y^2 = 0$ Elipse
- $\overset{z=1}{\Rightarrow} 4x^2 + 9y^2 + 1 = 0$ Elipse
- $\overset{z=2}{\Rightarrow} 4x^2 + 9y^2 + 2 = 0$ Elipse

- $\overset{y=-2}{\Rightarrow} 4x^2 + 18 + z = 0$ Parabola
- $\overset{y=-1}{\Rightarrow} 4x^2 + 9 + z = 0$ Parabola
- $\overset{y=0}{\Rightarrow} 4x^2 + +z = 0$ Parabola
- $\overset{y=1}{\Rightarrow} 4x^2 + 9 + z = 0$ Parabola
- $\overset{y=2}{\Rightarrow} 4x^2 + 18 + z = 0$ Parabola

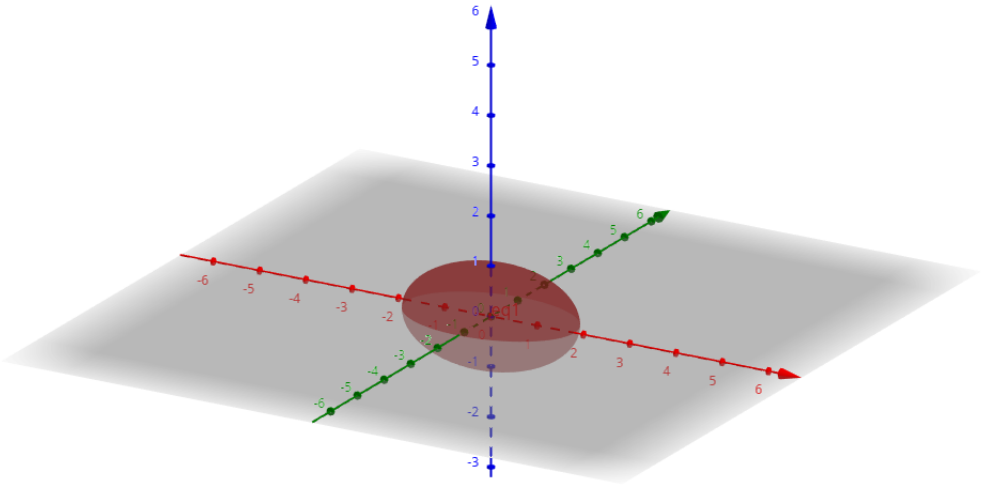
- $\overset{x=-2}{\Rightarrow} 16 + 9y^2 + z = 0$ Parabola
- $\overset{x=-1}{\Rightarrow} 4 + 9y^2 + z = 0$ Parabola
- $\overset{x=0}{\Rightarrow} 9y^2 + z = 0$ Parabola
- $\overset{x=1}{\Rightarrow} 4 + 9y^2 + z = 0$ Parabola
- $\overset{x=2}{\Rightarrow} 16 + 9y^2 + z = 0$ Parabola



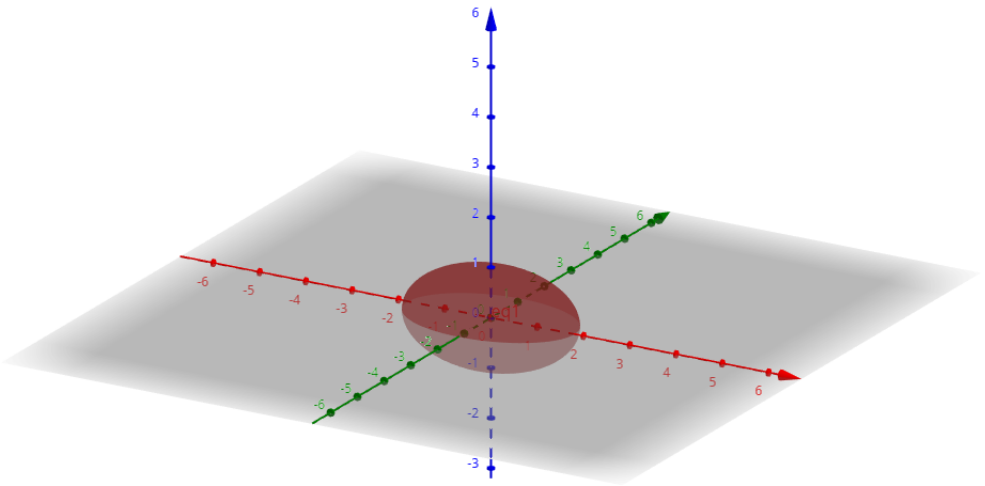
2. *a)* $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$



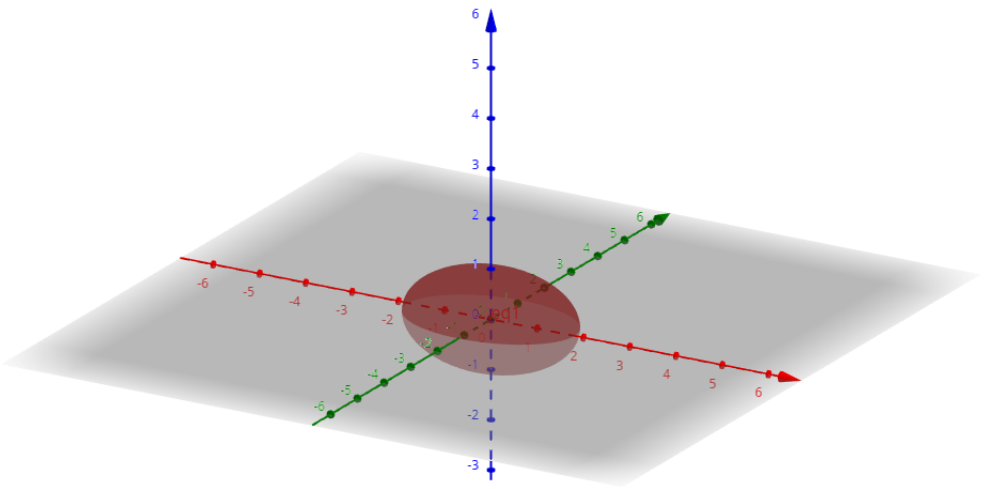
b) $z = \frac{x^2}{a^2} + \frac{y^2}{b^2}$



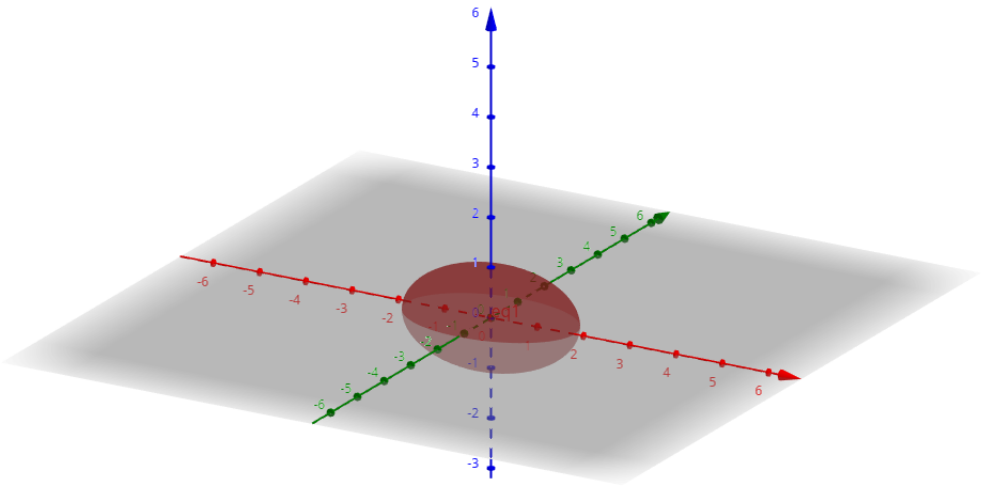
c) $z^2 = \frac{x^2}{a^2} + \frac{y^2}{b^2}$



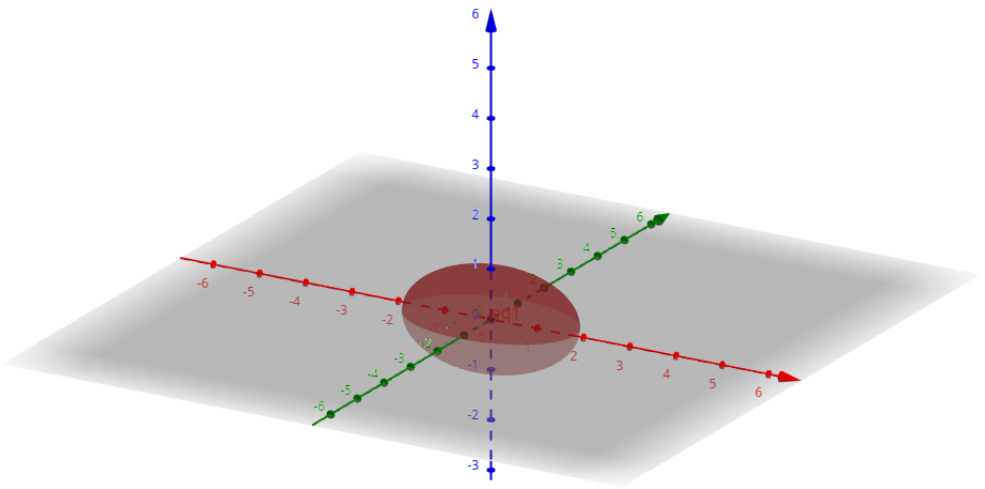
d) $z = \frac{x^2}{a^2} - \frac{y^2}{b^2}$



e) $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1$



f) $-\frac{x^2}{a^2} - \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$


6
5
4
3
2
1
-1
-2
-3
-6
-5
-4
-3
-2
-1
1
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5
6
-6
-5
-4
-3
-2
-1
1
2
3
4
5
6