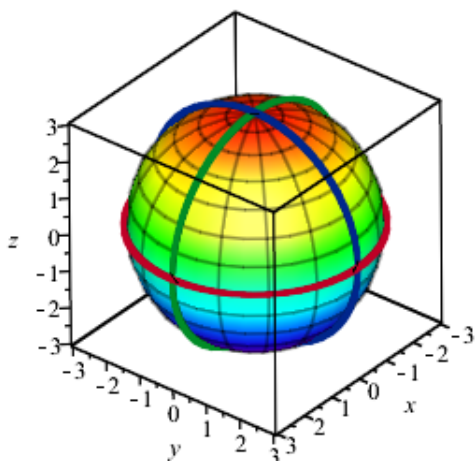


Kulová plocha

$$(x - m)^2 + (y - n)^2 + (z - p)^2 = r^2$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

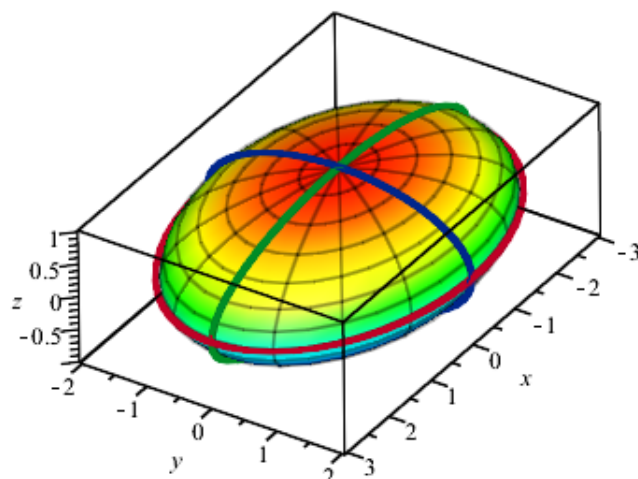
$$r = 3$$

**Elipsoid**

$$\frac{(x - m)^2}{a^2} + \frac{(y - n)^2}{b^2} + \frac{(z - p)^2}{c^2} = 1$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

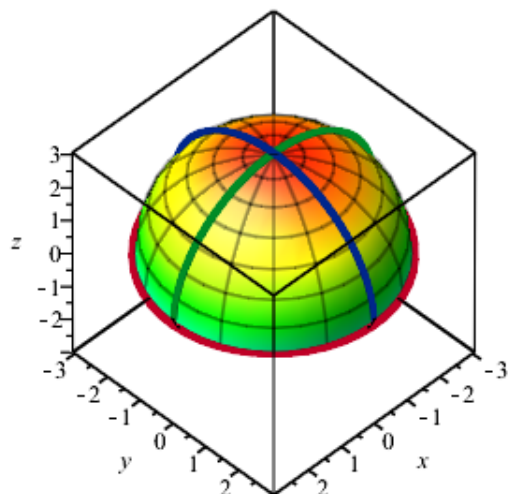
$$a = 3, b = 2, c = 1$$

**Kulová plocha****(horní část)**

$$z = p + c\sqrt{r^2 - (x - m)^2 - (y - n)^2}$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

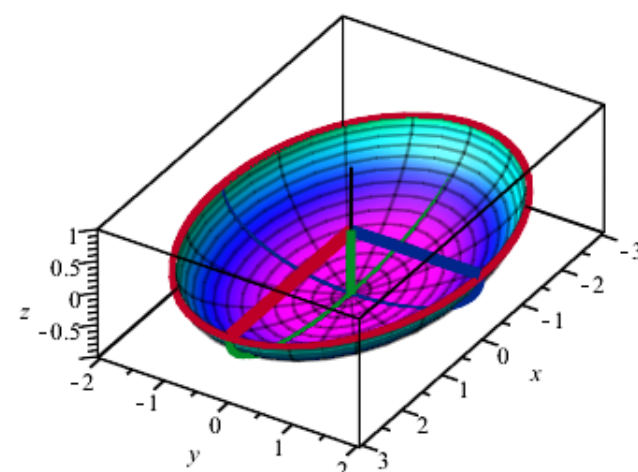
$$r = 3$$

**Elipsoid****(dolní část)**

$$z = p - c\sqrt{1 - \frac{(x - m)^2}{a^2} - \frac{(y - n)^2}{b^2}}$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

$$a = 3, b = 2, c = 1$$

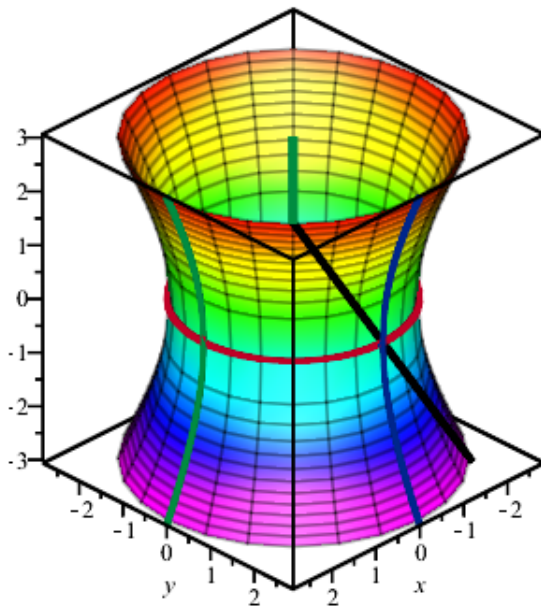


Rotační jednodílný hyperboloid, $o \parallel z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} - \frac{(z-p)^2}{c^2} = 1$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

$$a = b = 2, c = 3$$

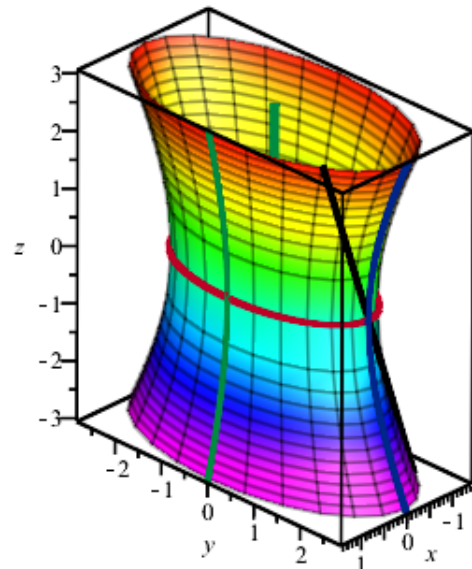


Eliptický jednodílný hyperboloid, $o \parallel z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} - \frac{(z-p)^2}{c^2} = 1$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

$$a = 1, b = 2, c = 3$$

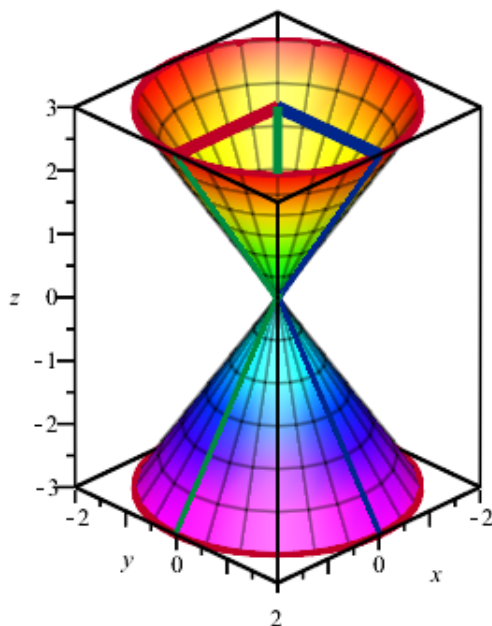


Rotační kuželová plocha, $o \parallel z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} - \frac{(z-p)^2}{c^2} = 0$$

$$\mathbf{V} = (m, n, p) = (0, 0, 0)$$

$$a = b = 2, c = 3$$

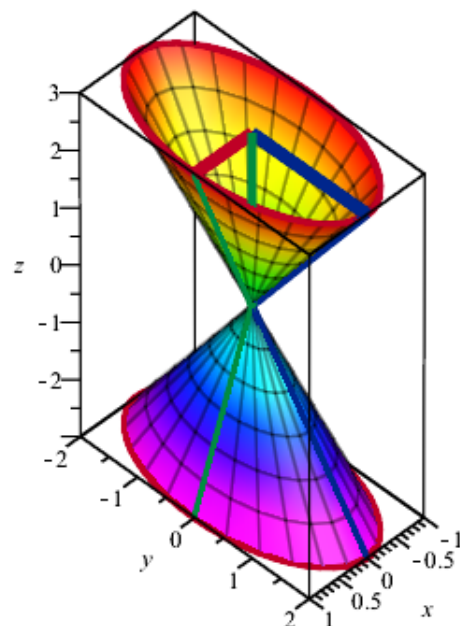


Eliptická kuželová plocha, $o \parallel z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} - \frac{(z-p)^2}{c^2} = 0$$

$$\mathbf{V} = (m, n, p) = (0, 0, 0)$$

$$a = 1, b = 2, c = 3$$

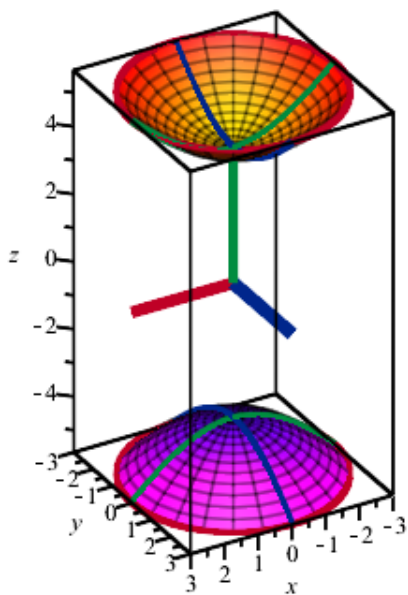


Rotační dvojdílný hyperboloid, $o \parallel z$

$$-\frac{(x-m)^2}{a^2} - \frac{(y-n)^2}{b^2} + \frac{(z-p)^2}{c^2} = 1$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

$$a = b = 3, c = 4$$

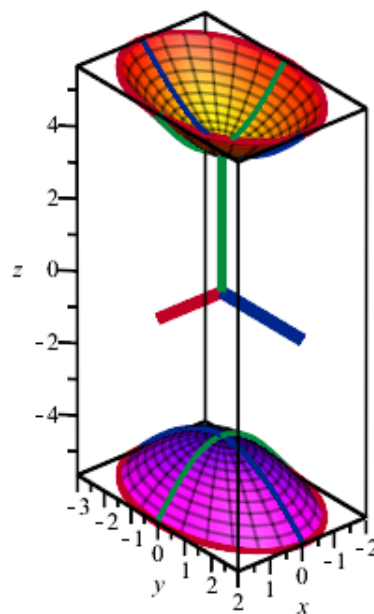


Eliptický dvojdílný hyperboloid, $o \parallel z$

$$-\frac{(x-m)^2}{a^2} - \frac{(y-n)^2}{b^2} + \frac{(z-p)^2}{c^2} = 1$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

$$a = 2, b = 3, c = 4$$

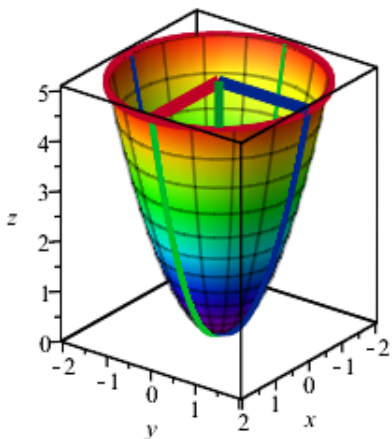


Rotační paraboloid, $o \parallel +z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} = \frac{z-p}{c}$$

$$\mathbf{V} = (m, n, p) = (0, 0, 0)$$

$$a = b = 2, c = 5$$

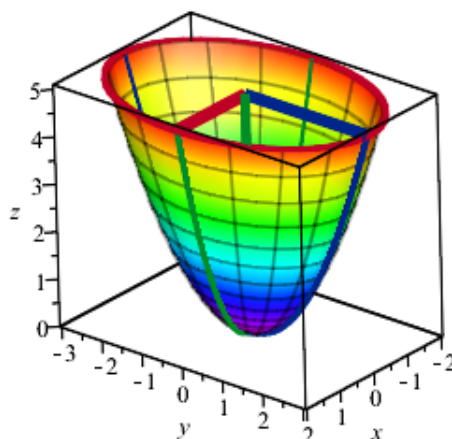


Eliptický paraboloid, $o \parallel +z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} = \frac{z-p}{c}$$

$$\mathbf{V} = (m, n, p) = (0, 0, 0)$$

$$a = 2, b = 3, c = 5$$

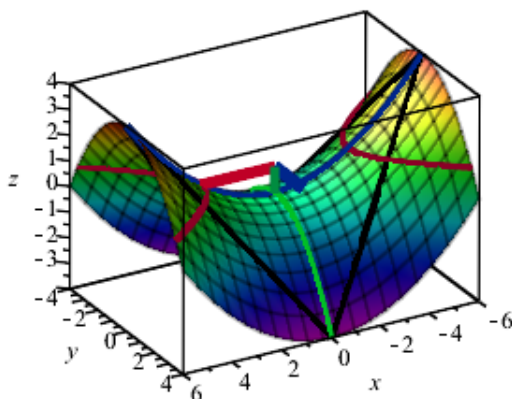


Hyperbolický paraboloid, $o \parallel +z$

$$\frac{(x-m)^2}{a^2} - \frac{(y-n)^2}{b^2} = \frac{z-p}{c}$$

$$\mathbf{V} = (m, n, p) = (0, 0, 0)$$

$$a = 3, b = 2, c = 1$$

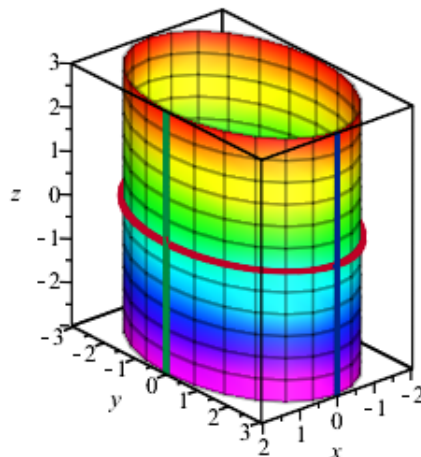


Eliptická válcová plocha, $o \parallel z$

$$\frac{(x-m)^2}{a^2} + \frac{(y-n)^2}{b^2} = 1$$

$$\mathbf{S} = (m, n, z) = (0, 0, z)$$

$$a = 2, b = 3$$

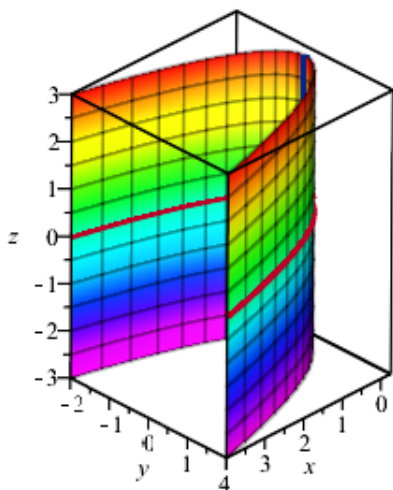


Parabolická válcová plocha, $o \parallel z$

$$\frac{(x-m)^2}{a^2} = 2p(z-p)$$

$$\mathbf{V} = (m, n, p) = (0, 0, 0)$$

$$p = \frac{1}{2}$$



Hyperbolická válcová plocha, $o \parallel z$

$$\frac{(x-m)^2}{a^2} - \frac{(y-n)^2}{b^2} = 1$$

$$\mathbf{S} = (m, n, p) = (0, 0, 0)$$

$$a = 2, b = 3$$

