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| **Superficies cuádricas** |
| Elipsoide | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{b^{2}}+\frac{z^{2}}{c^{2}}=1$$ |  |
| Esfera | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{a^{2}}+\frac{z^{2}}{a^{2}}=1$$ |  |
| Paraboloide elíptico | $$z=\frac{x^{2}}{a^{2}}+\frac{y^{2}}{b^{2}}$$ |  |
| Paraboloide circular | $$z=\frac{x^{2}}{a^{2}}+\frac{y^{2}}{a^{2}}$$ |  |
| Paraboloide hiperbólico | $$z=\frac{x^{2}}{a^{2}}-\frac{y^{2}}{b^{2}}$$ |  |
| Hiperboloide de una hoja | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{b^{2}}-\frac{z^{2}}{c^{2}}=1$$ |  |
| Hiperboloide de dos hojas | $$-\frac{x^{2}}{a^{2}}-\frac{y^{2}}{b^{2}}+\frac{z^{2}}{c^{2}}=1$$ |  |
| Cono | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{b^{2}}-\frac{z^{2}}{c^{2}}=0$$ |  |
| Cono circular | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{a^{2}}-\frac{z^{2}}{b^{2}}=0$$ |  |
| Cilindro elíptico | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{b^{2}}=1 $$ |  |
| Cilindro circular | $$\frac{x^{2}}{a^{2}}+\frac{y^{2}}{a^{2}}=1$$ |  |
| Cilindro hiperbólico | $$\frac{x^{2}}{a^{2}}-\frac{y^{2}}{b^{2}}=1$$ |  |
| Cilindro parabólico | $$x^{2}+2ay=0$$ |  |