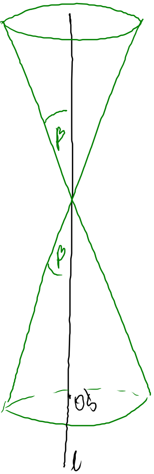
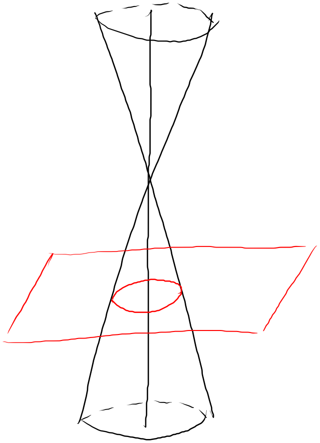
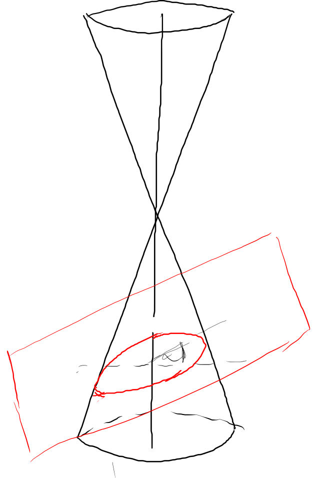


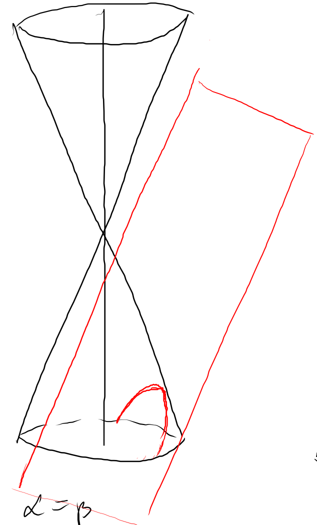
$\alpha = \frac{\pi}{2}$ w stosunku do $l$

okrąg



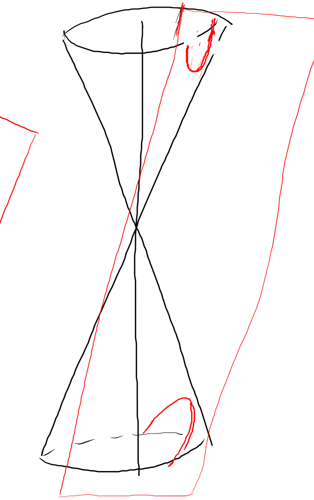

$\alpha > \beta$

elipsa



$\alpha = \beta$

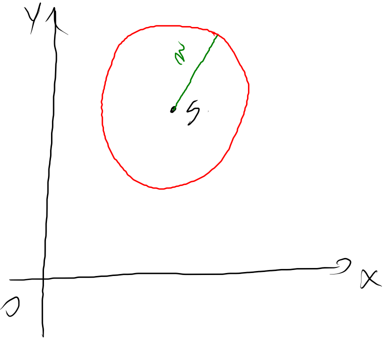
parabola



$\alpha < \beta$

hiperbola

# OKRĄG

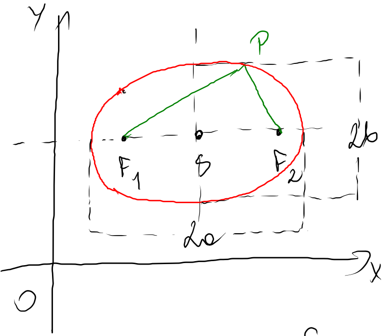



$S = (x_0, y_0)$ środek

$r$ - promień

$(x-x_0)^2 + (y-y_0)^2 = r^2$ równanie okręgu

# ELIPSA



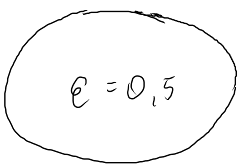

$S = (x_0, y_0)$ $\quad |F_1 F_2| = 2c$

$F_1 = (x_0 - c, y_0)$, $F_2 = (x_0 + c, y_0)$ ogniska

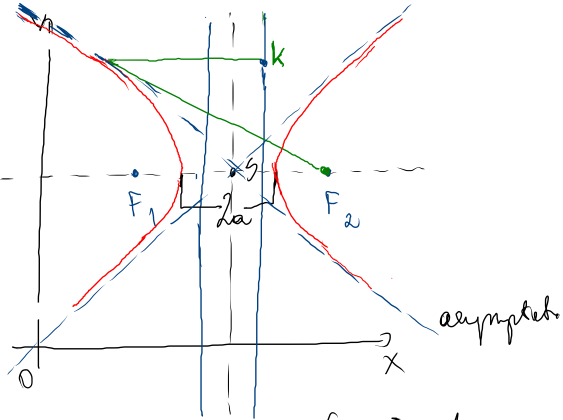
$|F_1 P| + |F_2 P| = \text{const}$

$$\frac{(x - x_0)^2}{a^2} + \frac{(y - y_0)^2}{b^2} = 1$$ równanie elipsy

Mimośród $\varepsilon = \frac{c}{a} < 1$

# HIPERBOLA




$S=(x_0,y_0)$ $\quad |F_1F_2|=2c$

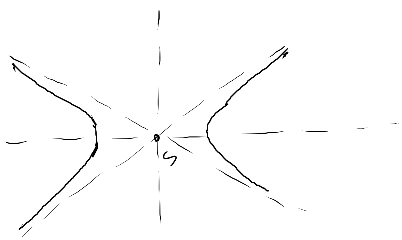
$F_1=(x_0-c,y_0)$ $\quad F_2=(x_0+c,y_0)$ ogniska

$||PF_1|-|PF_2||=const$

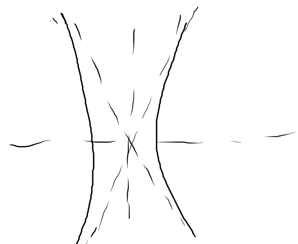
$b=\sqrt{c^2-a^2}$

$$\frac{(x-x_0)^2}{a^2}-\frac{(y-y_0)^2}{b^2}=1$$ równanie hiperboli

Mimośród $\varepsilon=\frac{c}{a}>1$

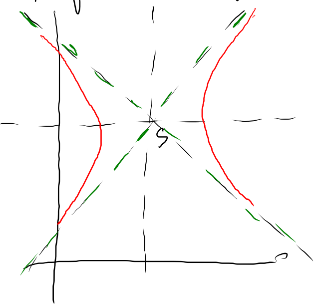


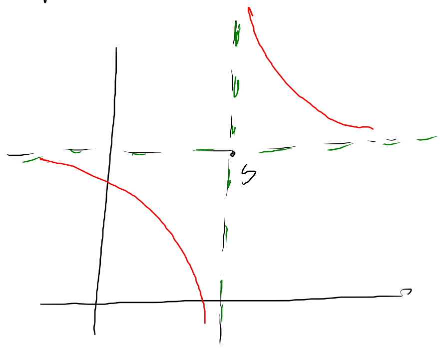

$\varepsilon=1,2$



$\varepsilon=1,7$

Gdy asymptoty przecinają się pod kątem $\frac{\pi}{2}$ to po obrocie o $\frac{\pi}{4}$ w kierunku przeciwnym do ruchu wskazówek zegara otrzymujemy

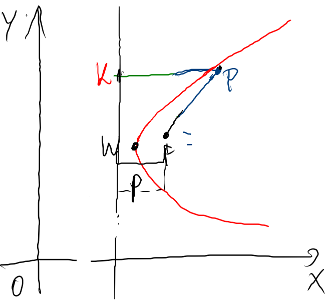



$$S = (x_0, y_0)$$

$$(x - x_0)(y - y_0) = \frac{a^2}{2}$$

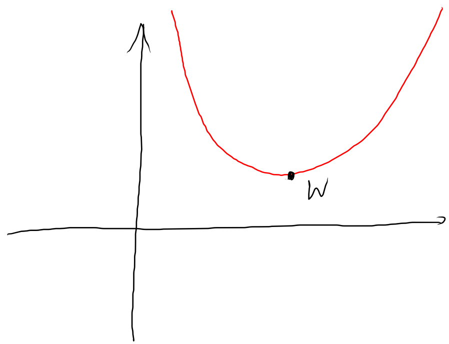
PARABOLA




$|PF| = |PK|$

$(y-y_0)^2 = 2p(x-x_0)$ równanie paraboli

Po obrocie o $\frac{\pi}{2}$ w kierunku przeciwnym do ruchu wskazówek zegara otrzymujemy




$y = ax^2 + bx + c \quad a \neq 0$

$W = \left( -\frac{b}{2a} \right) - \frac{\sqrt{b^2-4ac}}{4a} \Big)$