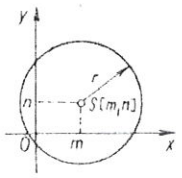
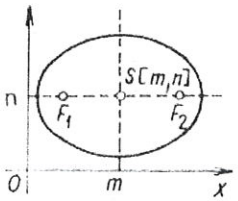
Krivky a plochy

- Kružnica so stredom S$[m,n]$ a polomerom r: $(x-m)^2+(y-n)^2=r^2$
- Parabola s osou rovnobežnou s O_x a vrcholom V$[m,n]$: $(y-n)^2=2p(x-m)$, pre $p>0$ je parabola otvorená doprava, ohnisko F$[m+\frac{p}{2},n]$
- Parabola s osou rovnobežnou s O_y a vrcholom V$[m,n]$: $(x-m)^2=2p(y-n)$, pre $p>0$ je parabola otvorená nahor, ohnisko F$[m,n+\frac{p}{2}]$
- Elipsa s hlavnou osou rovnobežnou s O_x a stredom S$[m,n]$: $\frac{(x-m)^2}{a^2}+\frac{(y-n)^2}{b^2}=1$
- Hyperbola s reálnou osou rovnobežnou s O_x a stredom S$[m,n]$: $\frac{(x-m)^2}{a^2}-\frac{(y-n)^2}{b^2}=1$
- Semikubická parabola (Neilova parabola): $y=ax^{2/3}$
- Prostá cykloida: $x=a(t-\sin t)$, $y=a(1-\cos t)$
- Skrátená (predĺžená) cykloida (podľa d): $x=a(t-d\sin t)$, $y=a(1-d\cos t)$
- Cassiniho krivka: $(x^2+y^2)^2-2e^2(x^2-y^2)=a^4-e^4$
- Bernoulliho lemniskáta: $(x^2+y^2)^2=2a^2(x^2-y^2)$
- Descartov list: $x^3+y^3-3axy=0$
- Dioklova kisoida: $\left(x-\frac{a}{2}\right)^2+y^2-\left(\frac{a}{2}\right)^2=0$
- Strofoida: $(a-x)y^2=(a+x)x^2$
- Guľová plocha so stredom $[m,n,p]$ a polomerom r: $(x-m)^2+(y-n)^2+(z-p)^2=r^2$
- Stredová rovnica trojosého elipsoidu: $\frac{x^2}{a^2}+\frac{y^2}{b^2}+\frac{z^2}{c^2}=1$, ak sú dĺžky dvoch poloos rovnaké, ide o rotačný elipsoid
- Stredová rovnica jednodielneho hyperboloidu: $\frac{x^2}{a^2}+\frac{y^2}{b^2}-\frac{z^2}{c^2}=1$
- Stredová rovnica dvojdielneho hyperboloidu: $\frac{x^2}{a^2}+\frac{y^2}{b^2}-\frac{z^2}{c^2}=-1$
- Stredová rovnica eliptického paraboloidu: $\frac{x^2}{a^2}+\frac{y^2}{b^2}-2z=0$
- Stredová rovnica hyperbolického paraboloidu: $\frac{x^2}{a^2}-\frac{y^2}{b^2}-2z=0$

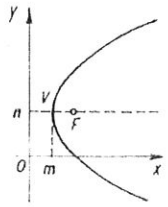
- Vrcholová rovnica kužeľovej plochy: $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 0$
- Stredová rovnica eliptickej valcovej plochy kolmej k rovine xy: $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$
- Stredová rovnica hyperbolickej valcovej plochy kolmej k rovine xy: $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$
- Vrcholová rovnica parabolickej valcovej plochy kolmej k rovine xy: $y^2 = 2px$



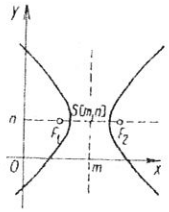
Obr. 248. Kružnice v obecné poloze



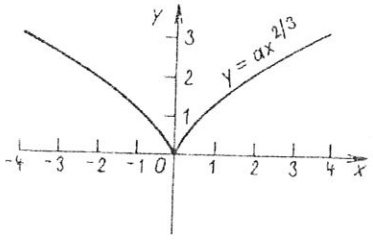
Obr. 271. Elipsa v normální poloze



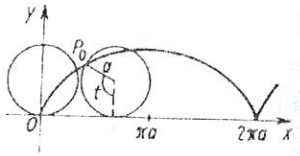
Parabola



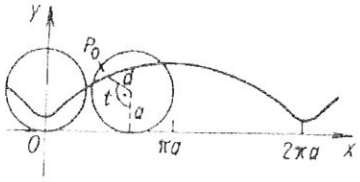
Obr. 288. Hyperbola v normální poloze



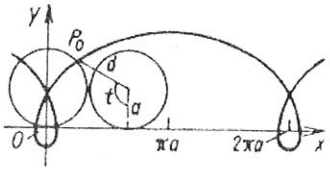
Obr. 333. Semikubická parabola [Neilova parabola] $y^3 = 2x^2$



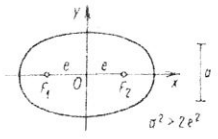
Obr. 334. Prostá cykloida



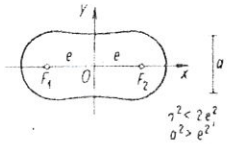
Obr. 335. Zkrácená cykloida



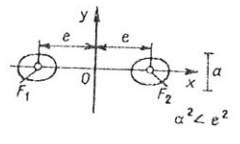
Obr. 336. Prodloužená cykloida



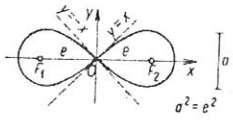
Obr. 342. Cassiniova křivka ($a^2 > 2e^2$)



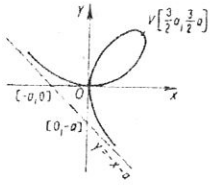
Obr. 343. Cassiniova křivka ($e^2 < a^2 < 2e^2$)



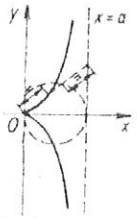
Obr. 344. Cassiniova křivka ($a^2 < e^2$)



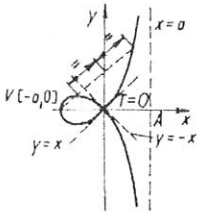
Obr. 345. Bernoulliova lemniskáta ($a^2 = e^2$)



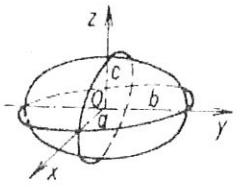
Obr. 352. Descartesův list



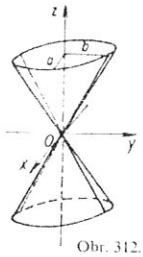
Obr. 353. Dioklova kisoida



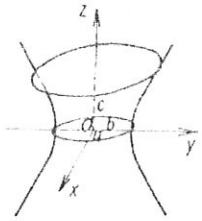
Obr. 354. Strofoida



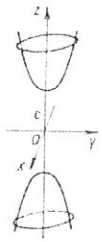
Obr. 307. Trojosý elipsoid



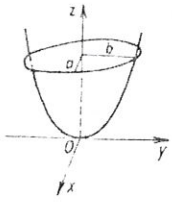
Obr. 312. Kuželová plocha



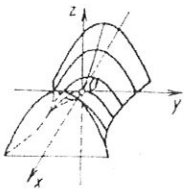
Obr. 308. Jednodílný hyperboloid



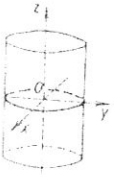
Obr. 309. Dvojdílný hyperboloid



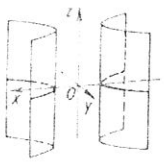
Obr. 310. Eliptický paraboloid



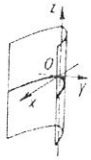
Obr. 311. Hyperbolický paraboloid



Obr. 313. Kolmá eliptická válcová plocha



Obr. 314. Kolmá hyperbolická válcová plocha



Obr. 315. Kolmá parabolická válcová plocha