

### Neke poznate krive

- (1) prava  $\alpha(t) = u + tv$ ,  $u, v \in \mathbb{R}^n$ ,  $n = 2, 3$ ,  $v \neq 0$ ,  $t \in (-\infty, \infty)$ ;
- (2) Arhimedova spirala  $\rho = a\theta$ ;
- (3) astroida  $\alpha(t) = (a \cos^3 t, a \sin^3 t)$ ,  $t \in (0, 2\pi]$ ,  $a > 0$ ,  $x^{\frac{2}{3}} + y^{\frac{2}{3}} = a^{\frac{2}{3}}$ ,  $a > 0$ ;
- (4) Bernoulli-jeva lemniskata  $\alpha(t) = \left( \frac{a \cos t}{1 + \sin^2 t}, \frac{a \sin t \cos t}{1 + \sin^2 t} \right)$ ,  $t \in (0, 2\pi)$ ;
- (5) Cassini-jevi ovali  $(x^2 + y^2)^2 + 2a^2(y^2 - x^2) = b^4 - a^4$ ;
- (6) cikloide  $\alpha(t) = (at - b \sin t, a - b \cos t)$ ,  $t \in (0, 2\pi]$ , za  $a = b$ ,  $x = a \arccos \frac{a - y}{a} - \sqrt{2ay - y^2}$ ;
- (7) Descartes-ov list  $\alpha(t) = \left( \frac{3t}{1 + t^3}, \frac{3t^2}{1 + t^3} \right)$ ,  $x^3 + y^3 = 3xy$ ;
- (8) Diocles-ova cisoida  $\alpha(t) = \left( \frac{2at^2}{1 + t^2}, \frac{2at^3}{1 + t^2} \right)$ ,  $x^3 + xy^2 - 2ay^2 = 0$ ;
- (9) elipsa  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ ,  $\alpha(t) = (a \cos t, b \sin t)$ ,  $t \in (0, 2\pi]$ ,  $a, b > 0$ ;
- (10) epicikloide  $\alpha(t) = (R(m+1) \cos(mt) - Rm \cos t(m+1), R(m+1) \sin(mt) - Rm \sin t(m+1))$ ;
- (11) hiperbola  $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ ,  $\alpha(t) = (a \cosh t, b \sinh t)$ ,  $t \in (0, 2\pi]$ ,  $a, b > 0$ ;
- (12) hipocikloide  $\alpha(t) = (R(1-m) \cos(mt) + Rm \cos t(1-m), R(m-1) \sin(mt) + Rm \sin t(m-1))$ ;
- (13) kardioida  $\alpha(t) = (2a \cos t(1 + \cos t), 2a \sin t(1 + \cos t))$ ,  $t \in (0, 2\pi)$ ;
- (14) krug  $\alpha(t) = (r \cos t, r \sin t)$ ,  $t \in (0, 2\pi]$ ,  $r > 0$ ;  $x^2 + y^2 = r^2$ ;
- (15) lančanica  $y = a \cosh \frac{x}{a}$ ,  $a > 0$ ,  $\alpha(t) = \left( t, a \cosh \left( \frac{t}{a} \right) \right)$ ;
- (16) logaritamska spirala  $r(\theta) = ae^{b\theta}$ ;  $\alpha(t) = (ae^{bt} \cos t, ae^{bt} \sin t)$ ;
- (17) parabola  $y^2 = 2px$ ,  $\alpha(t) = (2pt^2, 2pt)$ ;
- (18) sinusoidne spirale  $\rho^m = a^m \cos m\theta$ ;
- (19) traktrisa ("dog curve")  $\alpha(t) = a \left( \sin t, \cos t + \log \left( \tan \left( \frac{t}{2} \right) \right) \right)$ ;
- (20) (desni kružni) heliks  $\alpha(t) = (a \cos t, a \sin t, bt)$ ,  $a > 0$ ,  $t \in (0, \infty)$ ;
- (21) (desni kružni) konusni heliks  $\alpha(t) = (at \cos t, at \sin t, bt)$ ,  $a > 0$ ,  $t \in (0, \infty)$ ;
- (22) Vivijanijeva kriva  $\alpha(t) = a(1 + \cos t, \sin t, 2 \sin \frac{t}{2})$ ,  $a > 0$ ;