

• IMPLICITNÍ FUNKCE

$$f(x, y) = 0$$

2D: $f(x, y)$ $x'(y) = - \frac{\frac{\partial f}{\partial y}}{\frac{\partial f}{\partial x}}$

$$y'(x) = - \frac{\frac{\partial f}{\partial x}}{\frac{\partial f}{\partial y}}$$

3D: $f(x, y, z)$ $\frac{\partial z}{\partial x} = - \frac{\frac{\partial f}{\partial x}}{\frac{\partial f}{\partial z}}$

$$\frac{\partial z}{\partial y} = - \frac{\frac{\partial f}{\partial y}}{\frac{\partial f}{\partial z}}$$

• TEČNA + NORMÁLA (2D)

$$\left. \begin{array}{l} \frac{\partial f}{\partial x} = \dots \rightarrow T: \dots \\ \frac{\partial f}{\partial y} = \dots \rightarrow T: \dots \end{array} \right\} \nabla f(a, b)$$

$$t: ax + by + c = 0$$

$$\vec{n} \perp \nabla f : \vec{n}(b, -a) \quad n: bx - ay + c = 0$$

• TEČNÁ ROVINA + NORMÁLA (3D)

$$\left. \begin{array}{l} \frac{\partial f}{\partial x} = \dots \rightarrow T: \dots \\ \frac{\partial f}{\partial y} = \dots \rightarrow T: \dots \\ \frac{\partial f}{\partial z} = \dots \rightarrow T: \dots \end{array} \right\} \nabla f(a, b, c)$$

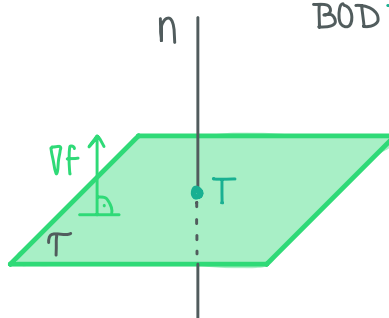
$$n: x = x_0 + at$$

$$y = y_0 + bt$$

$$z = z_0 + ct$$

BOD T VEKTOR ∇f

$$T: ax + by + cz + d = 0$$



**DOUČOVÁNÍ
S PĚŤOU**