

**Zadatak 55.** Središte kružnice  $x^2 + y^2 - 3x = 0$  žarište je parabole kojoj je os  $Oy$  ravnalica. Kako glasi jednačba parabole?

**Rješenje.**

$$k \dots x^2 + y^2 - 3x = 0$$

$$\left(x^2 - \frac{3}{2}\right)^2 - \frac{9}{4} + y^2 = 0$$

$$\left(x^2 - \frac{3}{2}\right)^2 + y^2 = \frac{9}{4} \implies S\left(\frac{3}{2}, 0\right)$$

$$\text{(parabola)} \dots F\left(\frac{3}{2}, 0\right)$$

$$r \dots x = 0 \implies F'(0, 0) \text{ (ortogonalna projekcija od } F \text{ na } r)$$

$$p = d(F, r) \implies p = \frac{3}{2}$$

$$T \text{ polovište od } \overline{FF'} \implies T\left(\frac{0 + \frac{3}{2}}{2}, \frac{0 + 0}{0}\right) \implies T\left(\frac{3}{4}, 0\right)$$

$$P \dots (y - y_T)^2 = 2p(x - x_T)$$

$$(y - 0)^2 = 2 \cdot \frac{3}{2} \left(x - \frac{3}{4}\right)$$

$$y^2 = 3\left(x - \frac{3}{4}\right)$$