

Zadatak 10. Odredi koordinate točaka u kojima se sijeku pravac $2x + y - 12 = 0$ i parabola $y^2 = 4x$.

Rješenje.

$$p \dots 2x + y - 12 = 0 \implies y = -2x + 12$$

$$P \dots y^2 = 4x$$

$$p \cap P \dots (-2x + 12)^2 = 4x$$

$$4x^2 - 48x + 144 - 4x = 0$$

$$4x^2 - 52x + 144 = 0 \quad / : 4$$

$$x^2 - 13x + 36 = 0$$

$$x_{1,2} = \frac{13 \pm \sqrt{169 - 144}}{2} = \frac{13 \pm 5}{2}$$

$$x_1 = 4, \quad y_1 = -2 \cdot 4 + 12 = 4 \implies T_1(4, 4)$$

$$x_2 = 9, \quad y_1 = -2 \cdot 9 + 12 = -6 \implies T_2(9, -6)$$