Zadatak 8. Odredi točke u kojima pravac $y = 2x + 1$ siječe hiperbolu $\dfrac{x^2}{9} - \dfrac{y^2}{4} = 1$.

Rješenje.

$$p \quad \ldots \quad y = 2x + 1$$

$$H \quad \ldots \quad \frac{x^2}{9} - \frac{y^2}{4} = 1 \quad \Big/ \cdot 36$$

$$4x^2 - 9y^2 = 36$$

$$p \cap H \quad \ldots \quad 4x^2 - 9(2x+1)^2 = 36$$

$$4x^2 - 9(4x^2 + 4x + 1) - 36 = 0$$

$$4x^2 - 36x^2 - 36x - 9 - 36 = 0$$

$$-32x^2 - 36x - 45 = 0 \quad \Big/ \cdot (-1)$$

$$32x^2 + 36x + 45 = 0$$

$$x_{1,2} = \frac{-36 \pm \sqrt{1296 - 5760}}{64} = \frac{-36 \pm \sqrt{-4464}}{64}$$

$D < 0$ nemaju zajedničkih točaka