Zadatak 11. Napiši jednadžbu pravca paralelnog s pravcem $3x + 4y - 11 = 0$ i od njega udaljenog za $d = 5$.

Rješenje.

$$p \ \ldots \ 3x + 4y - 11 = 0 \implies y = -\frac{3}{4}x + \frac{11}{4}$$

$$d(p, q) = 5$$

$$q = ?$$

$$k_q = k_p = -\frac{3}{4}$$

$$q \ \ldots \ y = -\frac{3}{4}x + l$$

$$\{T\} \in q \implies T\left(x_0, -\frac{3}{4}x_0 + l\right)$$

$$d(T, p) = d(q, p) = 5$$

$$\frac{|Ax_0 + By_0 + C|}{\sqrt{A^2 + B^2}} = 5$$

$$\frac{|3x_0 + 4(-\frac{3}{4}x_0 + l) - 11|}{\sqrt{9 + 16}} = 5$$

$$\frac{|3x_0 - 3x_0 + 4l - 11|}{5} = 5 \quad / \cdot 5$$

$$|4l - 11| = 25$$

1)

$$4l - 11 = -25$$

$$4l = -14$$

$$l = -\frac{7}{2}$$

$q_1 \ \ldots \ y = -\frac{3}{4}x - \frac{7}{2}$

$3x + 4y + 14 = 0$

2)

$$4l - 11 = 25$$

$$4l = 36$$

$$l = 9$$

$q_2 \ \ldots \ y = -\frac{3}{4}x + 9$

$3x + 4y - 36 = 0$