Zadatak 2.   Kolika je udaljenost dvaju paralelnih pravaca:

1) $3x - 4y - 20 = 0$ i $6x - 8y + 25 = 0$;

2) $5x - 12y - 13 = 0$ i $5x - 12y + 26 = 0$;

3) $8x - 6y + 25 = 0$ i $4x - 3y + 25 = 0$?

Rješenje.   Kako su pravci međusobno paralelni možemo izabrati bilo koju točku iz p i računati njezinu udaljenost do pravca q.

1)

$$p \; \ldots \; 3x - 4y - 20 = 0 \implies T(0, -5) \in p$$

$$q \; \ldots \; \underline{6x - 8y + 25 = 0}$$

$$x_0 = 0, \; y_0 = -5$$

$$A = 6, \; B = -8, \; C = 25$$

$$d(T, q) = \frac{|6 \cdot 0 + (-8) \cdot (-5) + 25|}{\sqrt{6^2 + (-8)^2}} = \frac{65}{10} = \frac{13}{2}$$

2)

$$p \; \ldots \; 5x - 12y - 13 = 0 \implies T\left(\tfrac{13}{5}, 0\right) \in p$$

$$q \; \ldots \; \underline{5x - 12y + 26 = 0}$$

$$x_0 = \frac{13}{5}, \; y_0 = 0$$

$$A = 5, \; B = -12, \; C = 26$$

$$d(T, q) = \frac{|5 \cdot \frac{13}{5} + (-12) \cdot 0 + 26|}{\sqrt{5^2 + (-12)^2}} = \frac{39}{13} = 3$$

3)

$$p \; \ldots \; 8x - 6y + 25 = 0 \implies T\left(0, \tfrac{25}{6}\right) \in p$$

$$q \; \ldots \; \underline{4x - 3y + 25 = 0}$$

$$x_0 = 0, \; y_0 = \frac{25}{6}$$

$$A = 4, \; B = -3, \; C = 25$$

$$d(T, q) = \frac{|6 \cdot 0 + (-3) \cdot \frac{25}{6} + 25|}{\sqrt{16 + 9}} = \frac{|-\frac{25}{2} + 25|}{5} = \frac{25}{10} = \frac{5}{2}$$