

**Zadatak 13.** Točkom  $P(2, 5)$  položi pravac kojem je udaljenost od točke  $Q(5, 1)$  jednaka 3.

*Rješenje.*

$$P(2, 5)$$

$$Q(5, 1)$$

$$\frac{d(Q, p) = 3}{p = ?}$$

$$p = ?$$

$$\{P\} \in p \implies y - 5 = k(x - 2)$$

$$p \dots kx - y + 5 - 2k = 0$$

$$d(Q, p) = 3$$

$$\frac{|k \cdot 5 - 1 \cdot 1 + 5 - 2k|}{\sqrt{k^2 + 1}} = 3 \quad / \cdot \sqrt{k^2 + 1}$$

$$|3k + 4| = 3\sqrt{k^2 + 1} \quad /^2$$

$$(3k + 4)^2 = 9k^2 + 9$$

$$9k^2 + 24k + 16 = 9k^2 + 9$$

$$24k = -7$$

$$k = -\frac{7}{24}$$

$$l = 5 - 2 \cdot \left(-\frac{7}{24}\right) = \frac{67}{12}$$

$$y = -\frac{7}{24}x + \frac{67}{12} \quad / \cdot 24$$

$$7x + 24y - 134 = 0 \dots p$$

$$x - 2 = 0 \quad \text{također je rješenje}$$