

Zadatak 2. Kolika je duljina odsječka što ga koordinatne osi odsijecaju na pravcu:

- 1) $4x - 3y + 12 = 0$; 2) $\frac{2}{3}x - \frac{1}{2}y = 1$;
 3) $y = \frac{1}{2}x + 4$?

Rješenje.

$$\begin{aligned}
 1) \quad & 4x - 3y + 12 = 0 \\
 & 4x - 3y = -12 \quad / : (-12) \\
 & \frac{4x}{-12} + \frac{-3y}{-12} = 1 \\
 & \frac{x}{-3} + \frac{y}{4} = 1 \implies m = -3, n = 4 \\
 & d = \sqrt{m^2 + n^2} = \sqrt{9 + 16} = 5, \quad d = 5
 \end{aligned}$$

$$\begin{aligned}
 2) \quad & \frac{2}{3}x - \frac{1}{2}y = 1 \\
 & \frac{x}{\frac{3}{2}} + \frac{y}{-2} = 1 \implies m = \frac{3}{2}, n = -2 \\
 & d = \sqrt{m^2 + n^2} = \sqrt{\frac{9}{4} + 4} = \sqrt{\frac{25}{4}} = \frac{5}{2}, \quad d = \frac{5}{2}
 \end{aligned}$$

$$\begin{aligned}
 3) \quad & y = \frac{1}{2}x + 4 \\
 & y - \frac{1}{2}x = 4 \quad / : 4 \\
 & \frac{x}{-8} + \frac{y}{4} = 1 \implies m = -8, n = 4 \\
 & d = \sqrt{m^2 + n^2} = \sqrt{64 + 16} = \sqrt{80}, \quad d = 4\sqrt{5}
 \end{aligned}$$