

Zadatak 20. Odredi koeficijent a tako da duljina odsječka pravca $3x + ay + 12 = 0$ između koordinatnih osi bude jednaka 5.

Rješenje.

$$3x + ay + 12 = 0$$

$$3x + ay = -12 \quad / : (-12)$$

$$\frac{x}{4} + \frac{y}{-\frac{12}{a}} = 1 \implies m = -4, \quad n = -\frac{12}{a}$$

$$d^2 = m^2 + n^2$$

$$5^2 = (-4)^2 + \left(-\frac{12}{a}\right)^2$$

$$25 = 16 + \frac{144}{a^2}$$

$$\frac{144}{a^2} = 9 \quad / \cdot a^2$$

$$144 = 9a^2 \quad / : 9$$

$$a^2 = 16$$

$$a = \pm 4$$