

**Zadatak 37.** Točke  $A(-2, -1)$  i  $B(4, 1)$  vrhovi su na osnovici jednakokračnog trokuta  $ABC$ . Odredi koordinate trećeg vrha trokuta ako je on na pravcu  $y = 2x + 8$ .

*Rješenje.*

$$\begin{array}{l} A(-2, -1) \\ B(4, 1) \\ p \dots \underline{y = 2x + 8} \\ C = ? \end{array}$$

Vrh  $C \in p$  pa ima koordinate  $(x_C, 2x_C + 8)$  i vrijedi  $d(A, C) = d(B, C)$ :

$$\begin{aligned} \sqrt{(-2 - x_C)^2 + (-1 - 2x_C - 8)^2} &= \sqrt{(4 - x_C)^2 + (1 - 2x_C - 8)^2} \quad /^2 \\ (-2 - x_C)^2 + (-9 - 2x_C)^2 &= (4 - x_C)^2 + (-7 - 2x_C)^2 \\ 4 + 4x_C + x_C^2 + 81 + 36x_C + 4x_C^2 &= 16 - 8x_C + x_C^2 + 49 + 28x_C + 4x_C^2 \\ 40x_C - 20x_C &= -85 + 65 \\ 20x_C &= -20 \end{aligned}$$

$$x_C = -1$$

$$y = 2 \cdot (-1) + 8$$

$$y = 6 \implies C(-1, 6)$$