

**Zadatak 33.** Točke  $A(-6, 2)$  i  $B(2, -2)$  dva su vrha trokuta  $ABC$ , a točka  $H(1, 2)$  njegov je ortocentar. Odredi koordinate vrha  $C$  ovog trokuta.

*Rješenje.*

$$A(-6, 2)$$

$$B(2, -2)$$

$$H(1, 2)$$

$$k_{v_a} = \frac{y_H - y_A}{x_H - x_A} = \frac{2 - 2}{1 + 6} = 0$$

$v_a$  je paralelan s osi  $x$ , pa je  $a$  paralelan s osi  $y$ ,  $\{B(2, -2)\} \in a \implies$

$$a \dots x = 2$$

$$k_{v_b} = \frac{y_H - y_B}{x_H - x_B} = \frac{2 + 2}{1 - 2} = -4 \implies k_b = -\frac{1}{k_{v_b}} = -\frac{1}{-4} = \frac{1}{4}$$

$$\{A\} \in b \implies y - 2 = \frac{1}{4}(x + 6)$$

$$y - 2 = \frac{1}{4}x + \frac{3}{2}$$

$$b \dots y = \frac{1}{4}x + \frac{7}{2}$$

$$\{B\} = a \cap b \dots y = \frac{1}{4} \cdot 2 + \frac{7}{2}$$

$$y = 4$$

$$x = 4 \implies C(2, 4)$$