Zadatak 25. Odredi koeficijent $k > 0$ tako da pravci $y = kx - 1$, $y = 1$ i $y = 5$ s osi ordinata zatvaraju konveksni četverokut površine 12.

Rješenje.

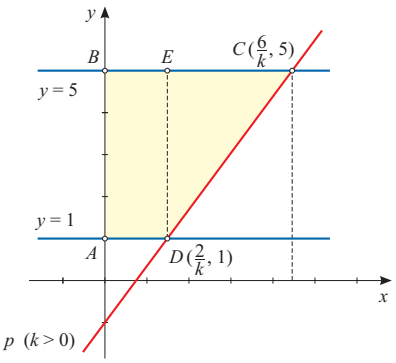
$a \ \ldots \ y = 5$

$b \ \ldots \ y = 1$

$$p \ \ldots \ y = kx - 1 \implies x = \frac{y+1}{k}$$

$$C = p \cap a = \left(\frac{5+1}{k}, 5\right) = \left(\frac{6}{k}, 5\right)$$

$$D = p \cap b = \left(\frac{1+1}{k}, 1\right) = \left(\frac{2}{k}, 1\right)$$



$k > 0$

$P = P_{ABED} + P_{ECD}$

$$12 = 4 \cdot \frac{2}{k} + \frac{4 \cdot \left(\frac{6}{k} - \frac{2}{k}\right)}{2}$$

$$12 = \frac{8}{k} + \frac{8}{k}$$

$$12 = \frac{16}{k}$$

$$k = \frac{3}{4}$$