

# 3D GRAFIKA

## problem 3

$$x \mapsto \frac{d}{z} x, \quad y \mapsto \frac{d}{z} y, \quad z \mapsto z$$

$T=(x,y,z)$  projiciramo na ravinu  $z=d$

$$d=-1$$

$$a) C = \left(\frac{12}{5}, 0, \frac{-12}{5}\right)$$

$$A = (0, 0, -4)$$

$$D = \left(5, 0, -\frac{2}{3}\right)$$

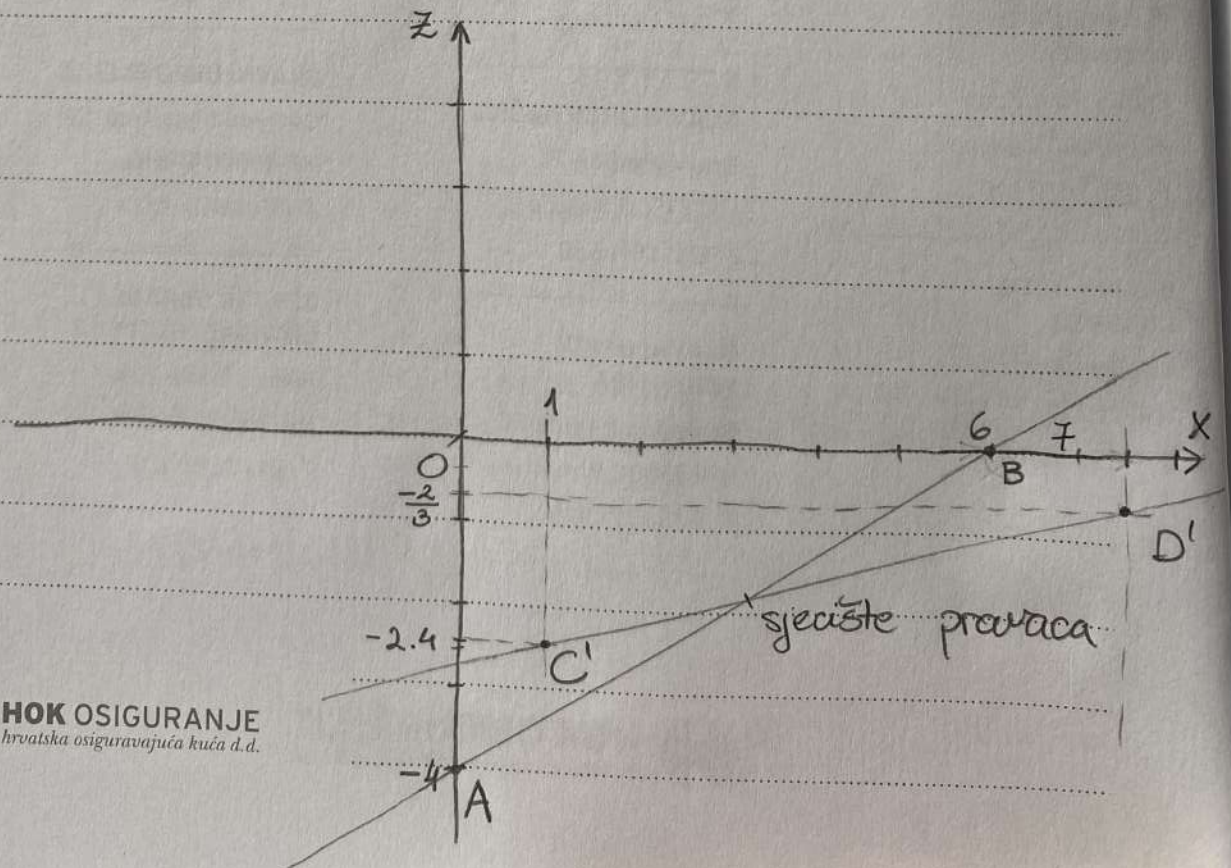
$$B = (6, 0, 0)$$

$$A = A'$$

$$C' = \left(\frac{-1}{-\frac{12}{5}} \cdot \frac{12}{5}, 0, \frac{-12}{5}\right) = \left(1, 0, \frac{-12}{5}\right)$$

$$B = B'$$

$$D' = \left(\frac{-1}{-\frac{2}{3}} \cdot 5, 0, \frac{-2}{3}\right) = \left(\frac{15}{2}, 0, \frac{-2}{3}\right)$$





Linearno zavisni vektori mogu se prikazati kao linearna kombinacija jedan drugog.

Vektori koji su linearno zavisni nužno moraju biti kolinearni.

$$\begin{aligned} \vec{a} &= (6, 0, 4) \\ \vec{b} &= \left(\frac{13}{2}, 0, \frac{26}{15}\right) \end{aligned} \quad \begin{bmatrix} \frac{13}{2} \\ 0 \\ \frac{26}{15} \end{bmatrix} = L \begin{bmatrix} 6 \\ 0 \\ 4 \end{bmatrix}$$

$$\begin{aligned} \frac{13}{2} &= 6L & L &= \frac{13}{12} \\ 0 &= 0L & & \times \\ \frac{26}{15} &= 4L & L &= \frac{13}{30} \end{aligned}$$

neka lin. komb

$L$  ne postoji dakle  
linearno su nezavisni  
 $\Leftrightarrow$  nisu kolinearni

b)

$$B' = \left(-\frac{1}{6}, 6, 0, 0\right)$$

$$A' = (0, 0, -4)$$

