# Zadatak 3

$x \to \frac{d}{z}$, $y \to \frac{d}{z} y$, $z \to z$

$T(x, y, z)$, $z = d$

$d = -1$ $A(0,0,-4)$, $B(6,0,0)$

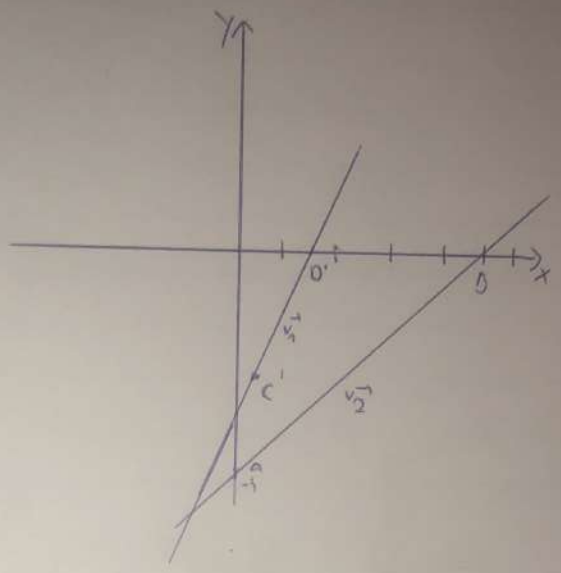
a) $C = \left(\frac{12}{5}, 0, -\frac{12}{5}\right)$

$x' = \frac{12}{5} \to \frac{5}{12}$

$y' = 0 \to 0$

$z' = -\frac{12}{5} \to -\frac{12}{5}$

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

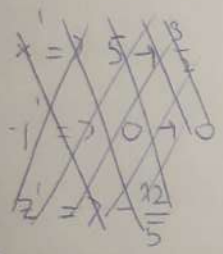



$D = (5, 0, -\frac{2}{3})$ $\Rightarrow$ $x' \Rightarrow 5 \to \frac{3}{2}$

$y' \Rightarrow 0 \to 0$

$z' \Rightarrow -\frac{2}{3} \to -\frac{2}{3}$

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



Dokaz da nisu paralelni:

$\vec{v_1} = D' - C' = \left(\frac{3}{2}, 0, -\frac{2}{3}\right) - \left(\frac{5}{12}, 0, -\frac{12}{5}\right) = \left(\frac{13}{12}, 0, \frac{26}{15}\right)$, $\|\vec{v_1}\| = \sqrt{\left(\frac{13}{12}\right)^2 + 0^2 + \left(\frac{26}{15}\right)^2} = 2{,}04$

$\vec{v_2} = B - A = (6,0,0) - (0,0,-4) = (6,0,4)$, $\|\vec{v_2}\| = \sqrt{6^2 + 0^2 + 4^2} = 7{,}2$

Možemo vidjeti jesu li pravci tj. vektori paralelni ili ne provjerimo je li kut među njima jednak $0°$:

$\|\vec{v_1}\| \cdot \|\vec{v_2}\| = \vec{v_1} \cdot \vec{v_2}$

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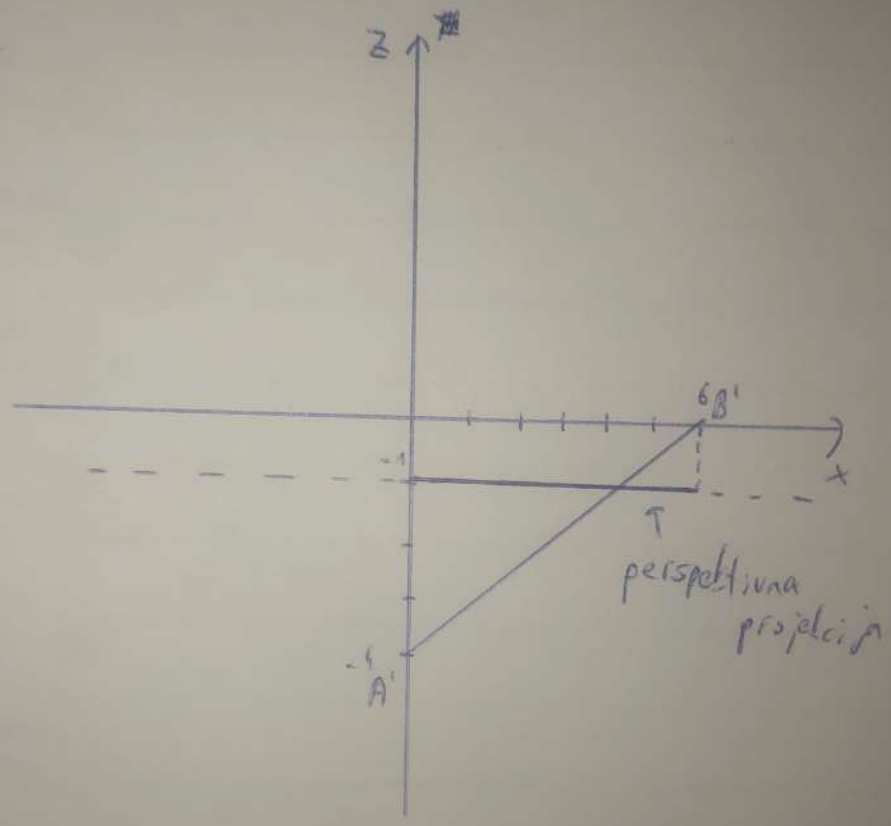
$\|\vec{v_1}\| \cdot \|\vec{v_2}\| = 2{,}04 \cdot 7{,}2 = 14{,}7$

$v_1 \cdot v_2 = \left(\frac{13}{12}, 0, \frac{26}{15}\right) \cdot (6,0,4) = \frac{13}{2} + 0 + \frac{104}{15} = 13{,}43$

Zbog toga što je $14{,}7 \neq 13{,}43$ zaključujem da vektori nisu paralelni

b) $A = A'$

$B = B'$




perspektivna projekcija