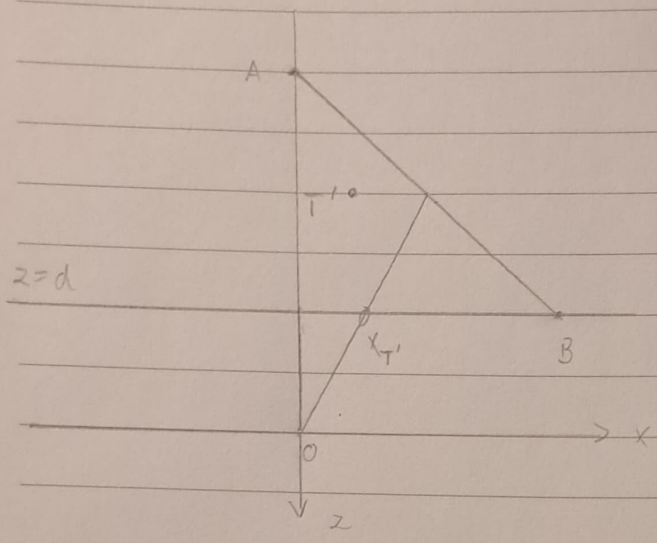
3d grafika 3. zadatak

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



$d=-1$ $A=(0,0,-4)$ $A=A'$

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

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

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

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

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

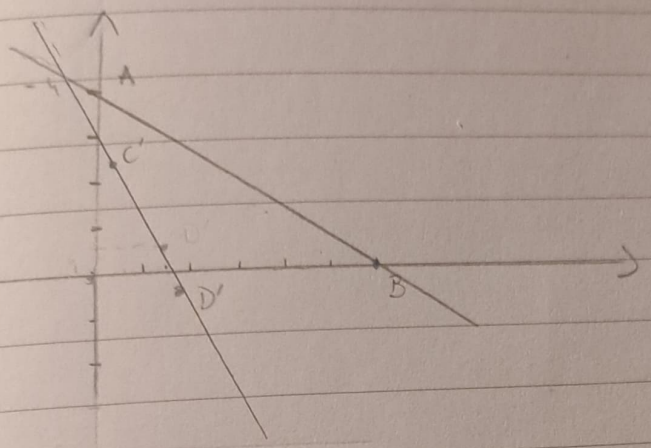
$\overrightarrow{AB}=(6,0,4)$ $\overrightarrow{C'D'}=(\frac{13}{12},0,\frac{26}{15})$

Ako su paralelni onda $\overrightarrow{AB}=\lambda \cdot \overrightarrow{C'D'}$

$(6,0,4)=(\frac{13}{12}\lambda,0,\frac{26}{15}\lambda)$

$6=\frac{13}{12}\lambda \Rightarrow \lambda=\frac{72}{13}$

$4=\frac{26}{15}\lambda \Rightarrow \lambda=\frac{30}{13}$ $\Rightarrow$ pravci nisu paralelni



b) $x_T = \frac{1}{2}(0+6) = 3$

$y_T = \frac{1}{2}(0+0) = 0$

$z_T = \frac{1}{2}(-4+0) = -2$

$T = (3, 0, -2)$

$x_T' = \frac{d}{z_A + z_B}(x_A + x_B) \cdot = \frac{-1}{-4} \cdot 6 = \frac{3}{2}$

$y_T' = 0$

$z_T' = \frac{1}{2}(-4) = -2$

$T' = (\frac{3}{2}, 0, -2)$