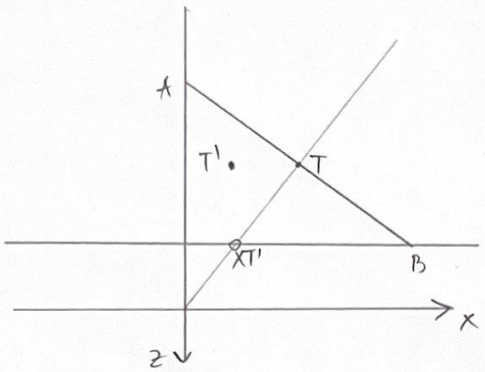
(3.) $x \mapsto \frac{d}{z}$, $y \mapsto \frac{d}{z} y$, $z \mapsto z$

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



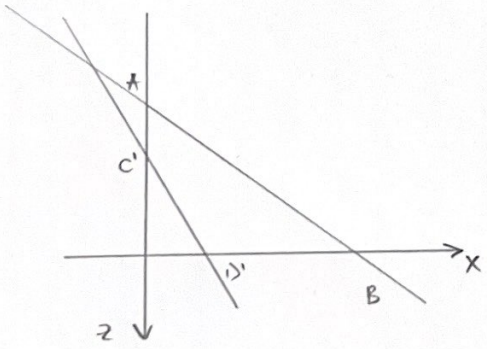
$d=-1$, $A=(0,0,-4)$, $B=(6,0,0)$, $A=A'$, $B=B'$

a) $C=(12/5, 0, -12/5)$, $D=(5,0,-2/3)$

C' : $\frac{12}{5} \mapsto \frac{-1}{-\frac{12}{5}} = \frac{5}{12}$; $0 \mapsto \frac{-1}{-\frac{12}{5}} \cdot 0 = 0$; $-\frac{12}{5} \mapsto -\frac{12}{5} \Rightarrow C' = (5/12, 0, -12/5)$

D' : $5 \mapsto \frac{-1}{-\frac{2}{3}} = \frac{3}{2}$; $0 \mapsto \frac{-1}{-\frac{2}{3}} \cdot 0 = 0$; $-\frac{2}{3} \mapsto -\frac{2}{3} \Rightarrow D' = (3/2, 0, -2/3)$

$\vec{AB} = \vec{r_B} - \vec{r_A} = (6,0,4)$, $\vec{C'D'} = \vec{r_{D'}} - \vec{r_{C'}} = (13/12, 0, 26/15)$



→ da su $\vec{AB}$ i $\vec{C'D'}$ paralel. to si znači da su kolinearni:

$\exists \lambda \in \mathbb{R}$ t.d. $\vec{AB} = \lambda \vec{C'D'}$

$(6,0,4) = \lambda (13/12, 0, 26/15)$

$(6,0,4) = (13/12\lambda, 0, 26/15\lambda)$

$6 = 13/12\,\lambda \Rightarrow \lambda = 72/13$

$4 = 26/15\,\lambda \Rightarrow \lambda = 30/13$

⇒ vekt. nisu kolinearni pa nisu paralelni

b) $A'=A=(0,0,-4)$, $B'=B=(6,0,0)$

$x_T = \frac{(x_A + x_B)}{2} = \frac{6}{2} = 3$

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

$z_T = \frac{(z_A + z_B)}{2} = \frac{-4}{2} = -2$

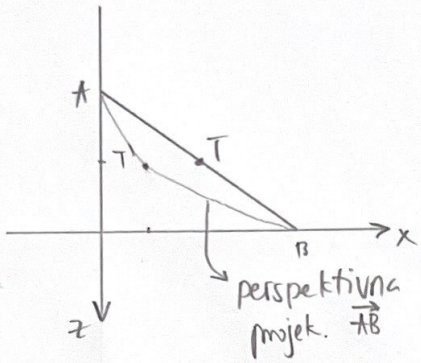
↳ $T = (3,0,-2)$

$x_{T'} = \frac{d(x_A + x_B)}{z_A + z_B} = \frac{-6}{-4} = \frac{3}{2}$

$y_{T'} = \frac{d(y_A + y_B)}{z_A + z_B} = \frac{0}{-4} = 0$

$z_{T'} = \frac{(z_A + z_B)}{2} = \frac{-4}{2} = -2$

↳ $T = (3/2, 0, -2)$


A
T'
T
X
B
Z
V
perspektivna
projek. $\overrightarrow{AB}$