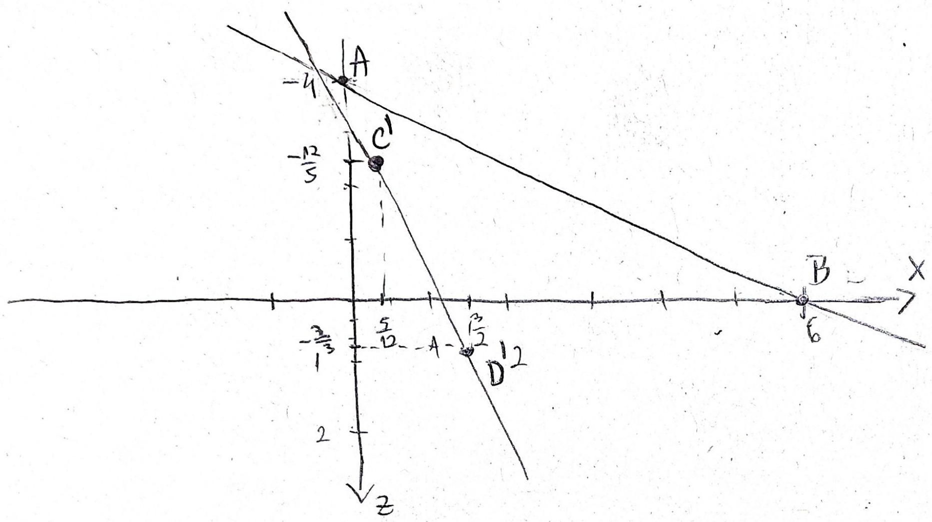
3.

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

$d = -1, \quad A = (0,0,-4), \; B = (6,0,0), \quad A = A' \text{ i } B = B'$

a) $C = \left(\frac{12}{5}, 0, -\frac{12}{5}\right), \quad \frac{12}{5} \to \frac{5}{12}; \; 0 \to 0; \; -\frac{12}{5} \to -\frac{12}{5} \Rightarrow C' = \left(\frac{5}{12}, 0, -\frac{12}{5}\right)$ ≈ 0.41 $= -2.4$

$\underline{D = \left(5, 0, -\frac{2}{3}\right)}, \quad 5 \to \frac{3}{2}; \; 0 \to 0; \; -\frac{2}{3} \to -\frac{2}{3} \Rightarrow D' = \left(\frac{3}{2}, 0, -\frac{2}{3}\right)$



$\overrightarrow{AB} = (6, 0, 4)$

$\overrightarrow{C'D'} = \left(\frac{13}{2}, 0, \frac{26}{15}\right)$

Vektori $\overrightarrow{AB}$ i $\overrightarrow{C'D'}$ će biti paralelni ako su kolinearni. Onda provjerimo jesu li vektori kolinearni (ako nisu, nisu ni paralelni), tj. pokažemo da $\exists\, \alpha \in \mathbb{R}$ t.d. $\overrightarrow{AB} = \alpha \cdot \overrightarrow{C'D'}$.

Dakle, imamo:

$(6, 0, 4) = \alpha \cdot \left(\frac{13}{2}, 0, \frac{26}{15}\right)$

$6 = \alpha \cdot \frac{13}{2} \Rightarrow \alpha = \frac{12}{13}$

$0 = \alpha \cdot 0 \qquad \neq$

$4 = \alpha \cdot \frac{26}{15} \Rightarrow \alpha = \frac{30}{13}$

Nisu kolinearni, tj. <u>nisu paralelni</u> jer dobijemo da je $\alpha = \frac{12}{13}$ i $\alpha = \frac{30}{13}$ u isto vrijeme što ne može biti.

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

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

$$\left.\begin{aligned} x_T &= \frac{1}{2}(0+6) = 3 \\ y_T &= \frac{1}{2}(0+0) = 0 \\ z_T &= \frac{1}{2}(-4+0) = -2 \end{aligned}\right\} T = (3,0,-2)$$

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

$$y_T' = \frac{d}{z_A + z_C}(y_A + y_C) = 0$$

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

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