3.

$$x \mapsto \frac{d}{z} \qquad d = -1$$

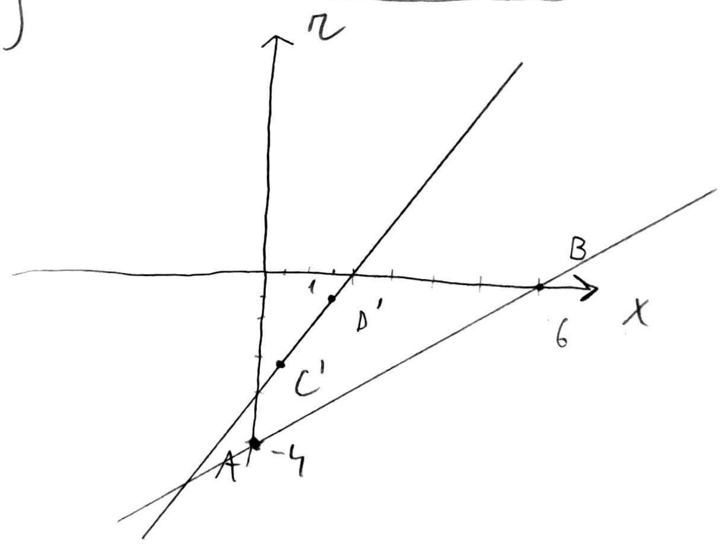
$$y \mapsto \frac{d}{z} y \qquad A = (0,0,-4)$$

$$z \mapsto z \qquad B = (6,0,0)$$

a) $C = \left(\frac{12}{5}, 0, -\frac{12}{5}\right)$ $\quad$ $D = \left(5, 0, -\frac{2}{3}\right)$

$$\left.\begin{array}{l} \frac{12}{5} \mapsto \frac{5}{12} \\ 0 \mapsto 0 \\ -\frac{12}{5} \mapsto -\frac{12}{5} \end{array}\right\} \Rightarrow \boxed{C' = \left(\frac{5}{12}, 0, -\frac{12}{5}\right)}$$

$$\left.\begin{array}{l} 5 \mapsto \frac{3}{2} \\ 0 \mapsto 0 \\ -\frac{2}{3} \mapsto -\frac{2}{3} \end{array}\right\} \Rightarrow \boxed{D' = \left(\frac{3}{2}, 0, -\frac{2}{3}\right)}$$



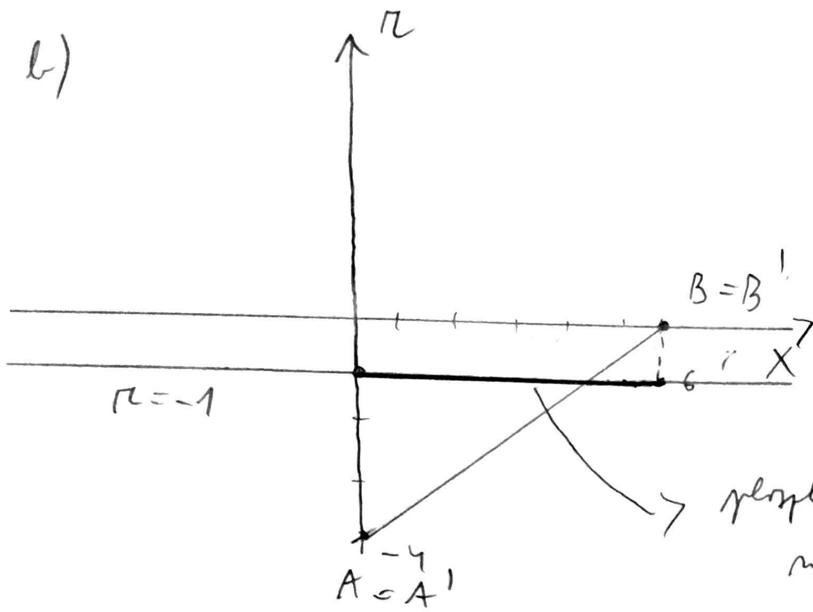

Napravimo vektore $\vec{a} = D' - C'$ i $\vec{b} = B - A$. Ako su ta dva pravca paralelna, onda će vrijediti $\vec{a} \cdot \vec{b} = \|\vec{a}\| \cdot \|\vec{b}\|$, jer je $\cos 0° = 1$.

$$\left.\begin{array}{l} \vec{a} = \left(\frac{13}{12}, 0, \frac{26}{15}\right) \Rightarrow \|\vec{a}\| = \frac{13\sqrt{89}}{60} = 2.044 \\ \vec{b} = (6, 0, 4) \Rightarrow \|\vec{b}\| = 2\sqrt{13} = 7.211 \end{array}\right\} \|\vec{a}\| \cdot \|\vec{b}\| = 14.74$$

$$\vec{a} \cdot \vec{b} = \frac{13}{2} + \frac{104}{15} = \frac{403}{30} = 13.433$$

Dakle, $\vec{a} \cdot \vec{b} \neq \|\vec{a}\| \cdot \|\vec{b}\|$ pa pravci nisu paralelni.

b)




$A = A'$

$B = B'$

perspektívna projekcia úsečky $AB$ na rovinu $z = -1$