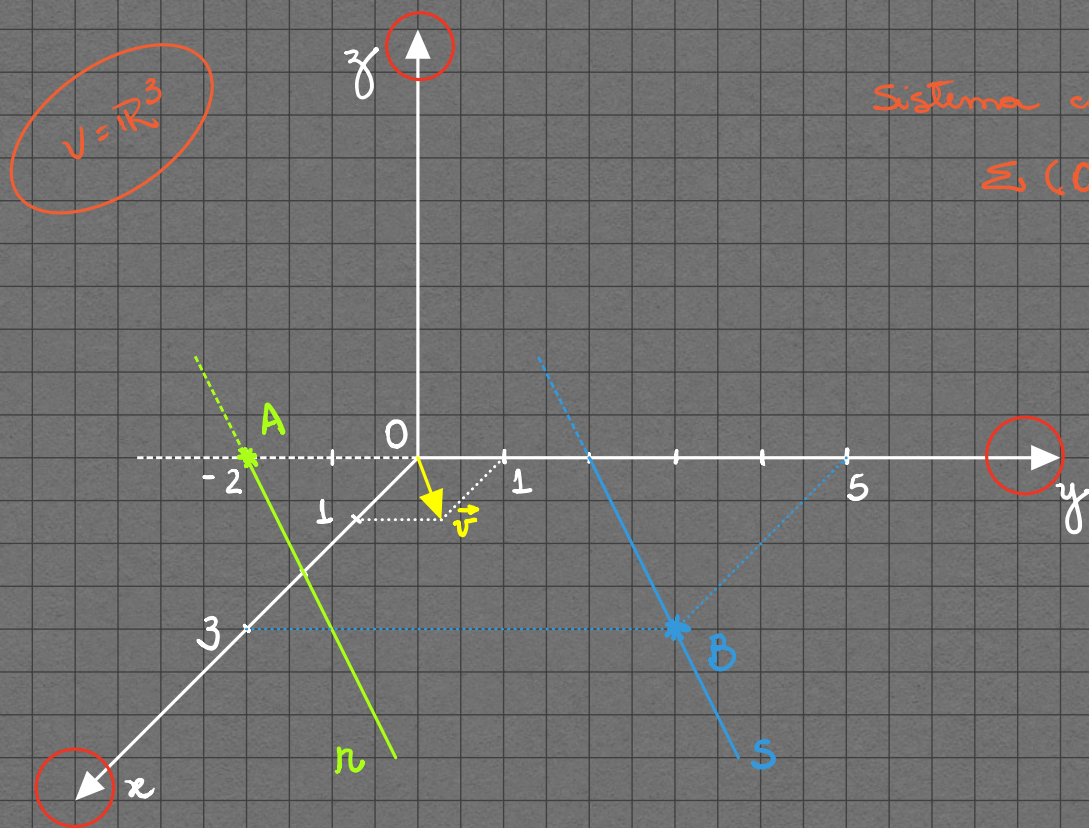
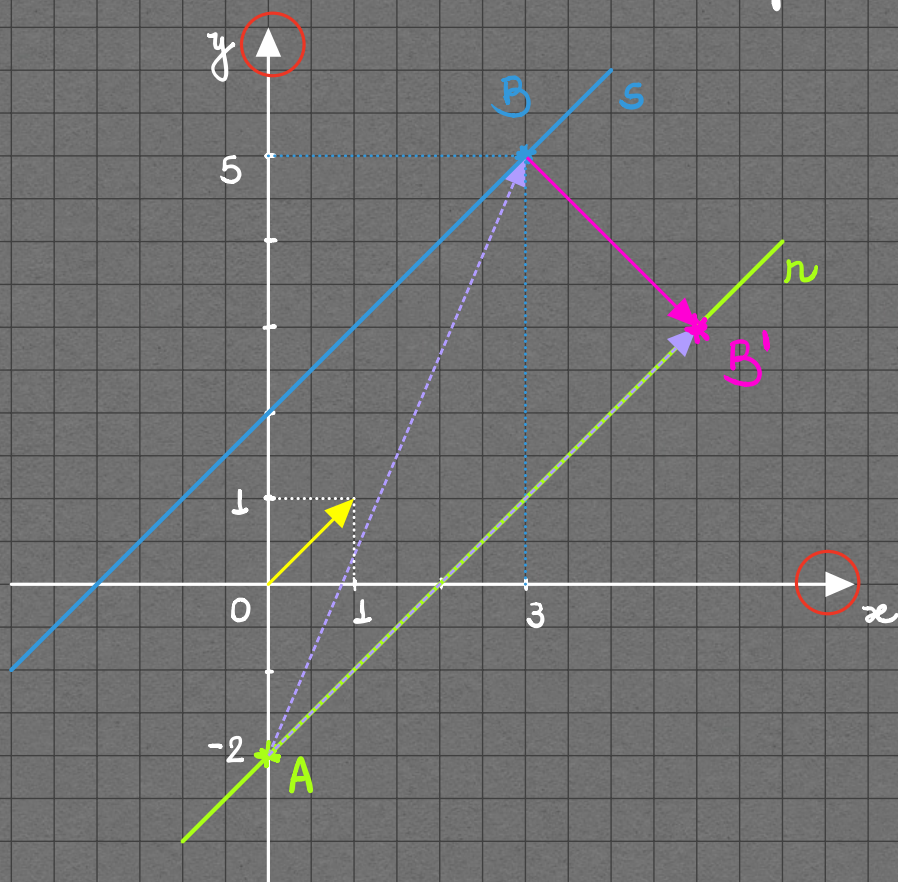


T3 - Gabarito



↓ Eixos devem ser orientados: $-O, 25$

As retas r e s C Oxy. Portanto, olhando para esse plano de forma mais aproximada:



$\vec{AB}$... vetor formado pelos pontos conhecidos de r e s

$$\vec{AB'} = \text{proj}_{\vec{r}} \vec{AB}$$

Do $\Delta AB'B$, reto em B' :

$$\vec{BB'} = \vec{AB'} - \vec{AB}$$

$$\|\vec{BB'}\| = \delta(r, s)$$

$$\vec{AB} = B - A = (3, 5, 0) - (0, -2, 0) = (3, 7, 0)$$

$$\vec{AB'} = \text{proj}_{\vec{v}} \vec{AB} = \left(\frac{\langle \vec{AB}, \vec{v} \rangle}{\langle \vec{v}, \vec{v} \rangle} \right) \vec{v}$$

P1 Usual : $\langle \vec{u}, \vec{v} \rangle = x_1 x_2 + y_1 y_2 + z_1 z_2 \quad \begin{cases} \vec{u} = (x_1, y_1, z_1) \\ \vec{v} = (x_2, y_2, z_2) \end{cases}$

$$\begin{cases} * \langle \vec{AB}, \vec{v} \rangle = \langle (3, 7, 0), (1, 1, 0) \rangle = 3 + 7 = 10 \\ * \langle \vec{v}, \vec{v} \rangle = \langle (1, 1, 0), (1, 1, 0) \rangle = 1 + 1 = 2 \end{cases}$$

$$\therefore \vec{AB'} = \frac{10}{2} \vec{v} = 5(1, 1, 0) = (5, 5, 0)$$

$$\vec{BB'} = \vec{AB'} - \vec{AB} = (5, 5, 0) - (3, 7, 0) = (2, -2, 0)$$

$$\langle \vec{BB'}, \vec{BB'} \rangle = \langle (2, -2, 0), (2, -2, 0) \rangle = 4 + 4 = 8$$

$$\rightarrow \|\vec{BB'}\| = \sqrt{\langle \vec{BB'}, \vec{BB'} \rangle} = \sqrt{8} = 2\sqrt{2}$$

$$\therefore \delta(n, s) = \|\vec{BB'}\| = 2\sqrt{2}$$