

$$x \cdot (2x^3 - 9x^2 + 7x + 6) \Big| x-2$$

$$\hline 0$$

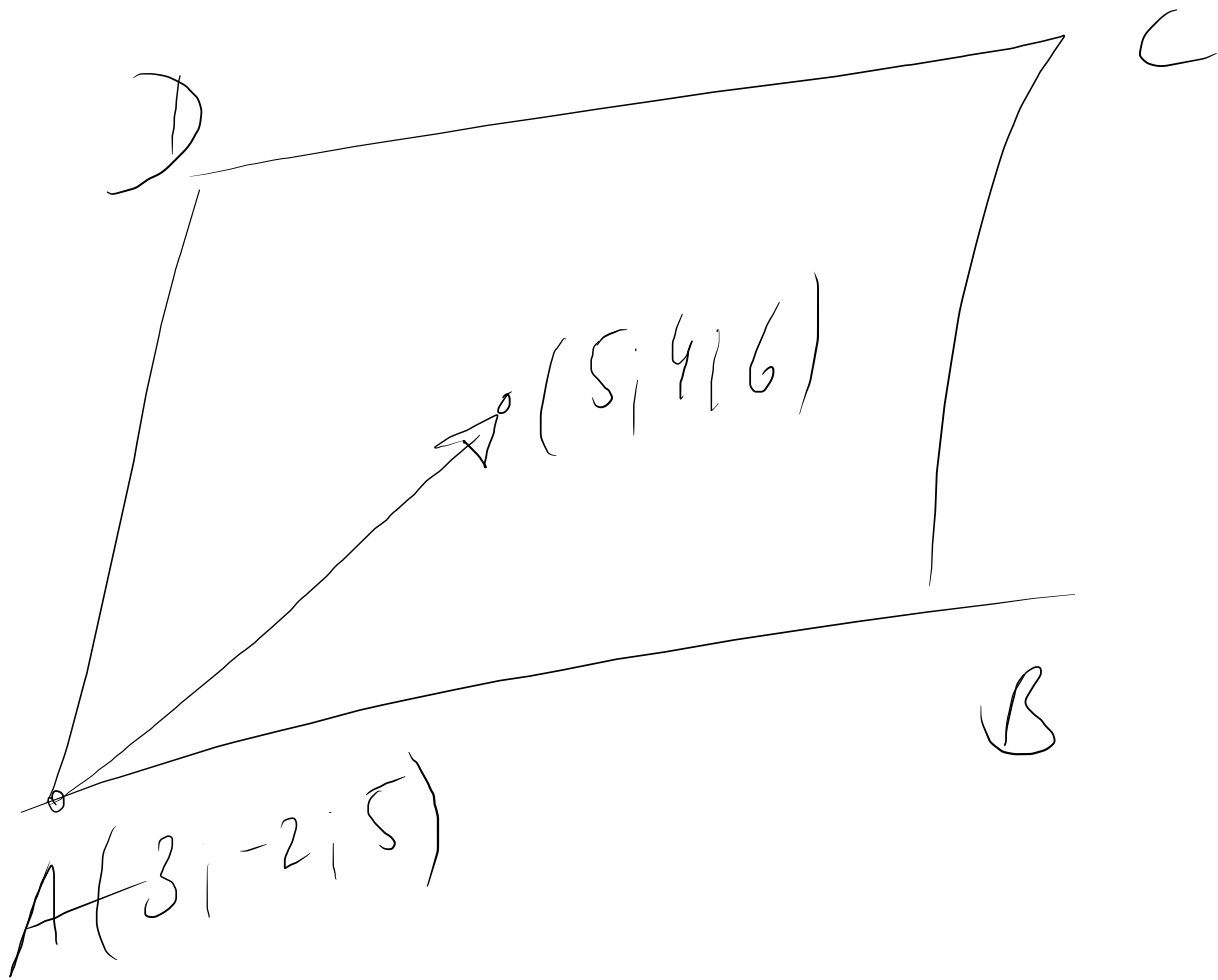
$$2 \quad -9 \quad 7 \quad 6$$

$$2 \quad \quad 4 \quad -10 \quad -6$$

$$\hline \boxed{2 \quad -5 \quad -3} \quad 0$$

$$p(2) = 0 \Rightarrow (x-2) \mid p(x)$$

$$p(x) = x \cdot (x-2) (2x^2 - 5x - 3)$$



$$\begin{pmatrix} 3 \\ -2 \\ 5 \end{pmatrix} + 2 \begin{pmatrix} 2 \\ 6 \\ 1 \end{pmatrix}$$

$$\begin{pmatrix} 3+4 \\ -2+12 \\ 5+2 \end{pmatrix} = \begin{pmatrix} 7 \\ 10 \\ 7 \end{pmatrix}$$

$$x^3 + x^2 - x - 1$$

$$x^3 + 2x^2 - x - 2$$

$$= \frac{(x+1) \cancel{(x+1)} \cancel{(x-1)}}{(x+2) \cancel{(x+1)} \cancel{(x-1)}}$$

$$\begin{array}{cccc} & 1 & 1 & -1 & -1 \end{array}$$

$$\begin{array}{cccc} -1 & & -1 & 0 & 1 \end{array}$$

$$\begin{array}{cccc} 1 & 0 & -1 & 0 \end{array}$$

$$(x+1)(x+1)(x-1)$$

$$\begin{array}{cccc} 1 & 2 & -1 & -2 \end{array}$$

$$\begin{array}{cccc} -2 & & -2 & 0 & 2 \end{array}$$

$$\begin{array}{cccc} 1 & 0 & -1 & 0 \end{array}$$

$$(x+2)(x^2-1)$$

$$\vec{AB} = \begin{pmatrix} 3-\alpha \\ 4 \\ 4 \end{pmatrix} \quad \vec{AC} = \begin{pmatrix} -\alpha \\ 5+\alpha \\ 5+\alpha \end{pmatrix}$$

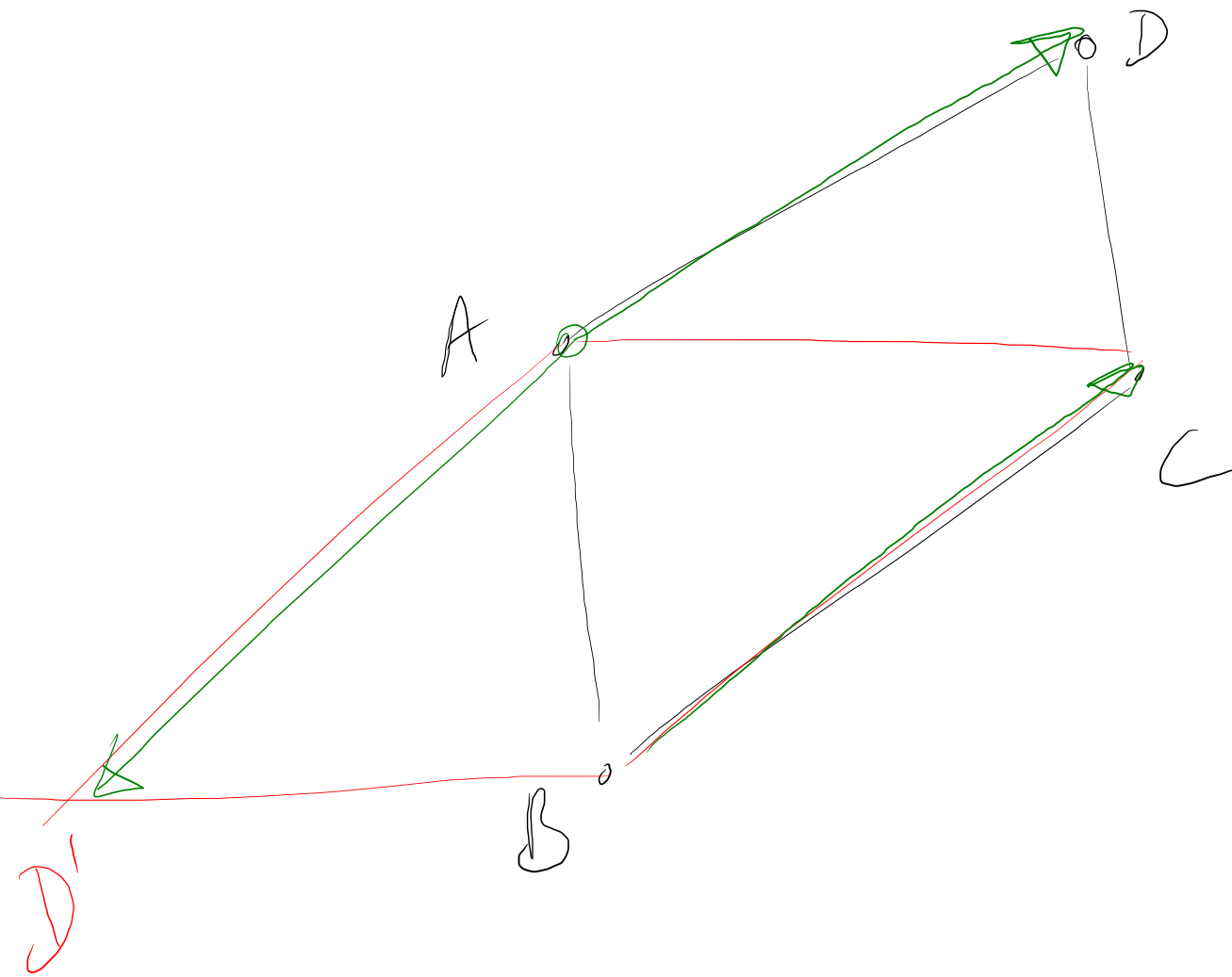
$$\vec{AB} = k \vec{AC}$$

$$\begin{cases} 3-\alpha = -\alpha k \\ 4 = (5+\alpha) k \end{cases}$$

$$k = \frac{4}{5+\alpha}$$

$$3-\alpha = -\alpha \cdot \frac{4}{5+\alpha}$$

$$\Leftrightarrow (3-\alpha)(5+\alpha) = -4\alpha$$



$$\vec{OD} = \vec{OA} + \vec{BC}$$

$$\vec{OD'} = \vec{OA} - \vec{BC}$$

$$5 \cdot \ell \cdot \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix} + \ell \begin{pmatrix} -2 \\ 1 \\ 3 \end{pmatrix} =$$

$$\left[5 \cdot \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix} + \begin{pmatrix} -2 \\ 1 \\ 3 \end{pmatrix} \right] \cdot \ell = \ell \cdot \begin{pmatrix} 5 - 2 \\ 10 + 1 \\ 15 + 3 \end{pmatrix}$$

$$= \ell \cdot \begin{pmatrix} 3 \\ 11 \\ 18 \end{pmatrix}$$

$$\frac{x-2}{2x-2} = \frac{1 \cdot \cancel{(x-1)}}{2 \cdot \cancel{(x-1)}} = \frac{1}{2}$$