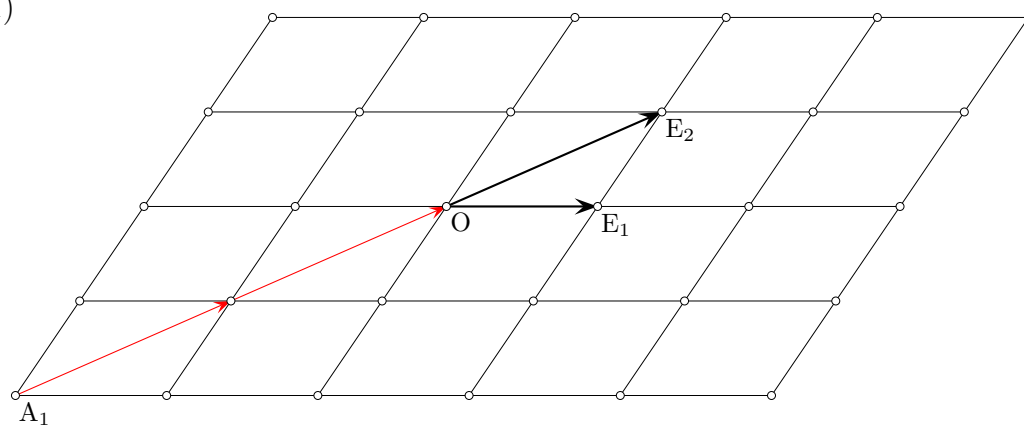


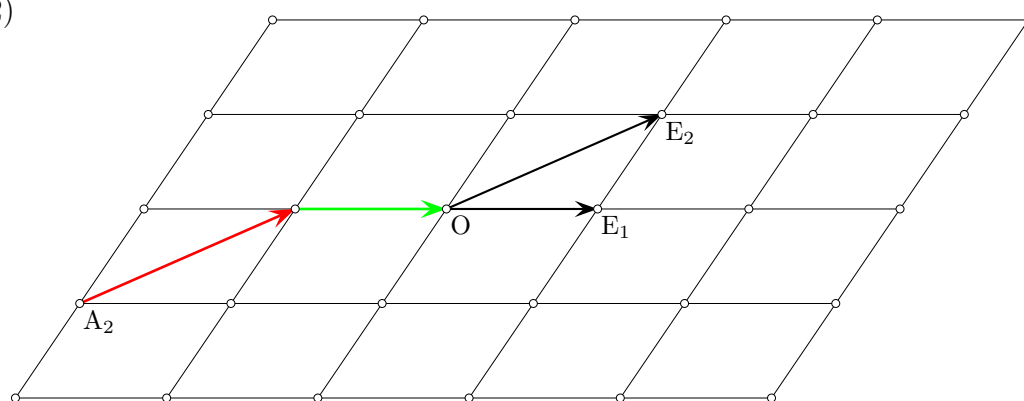
10.1

1)



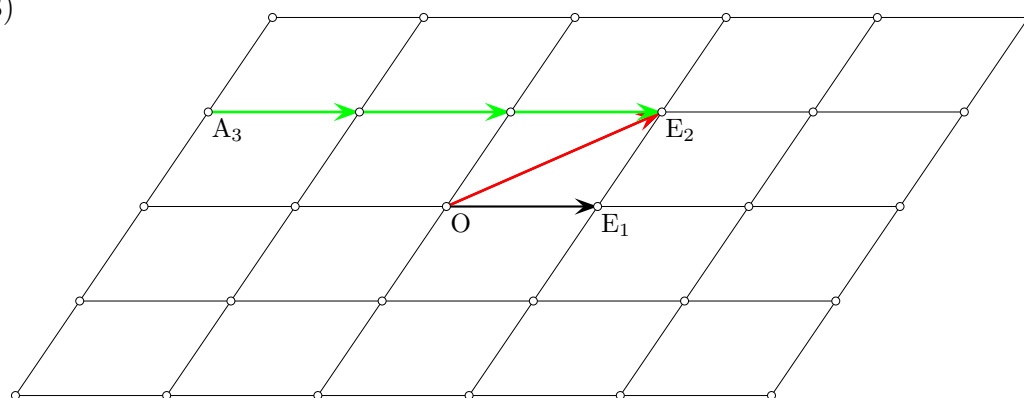
$$\overrightarrow{OA_1} = -2\overrightarrow{OE_2} = \begin{pmatrix} 0 \\ -2 \end{pmatrix} \iff A_1(0; -2)$$

2)



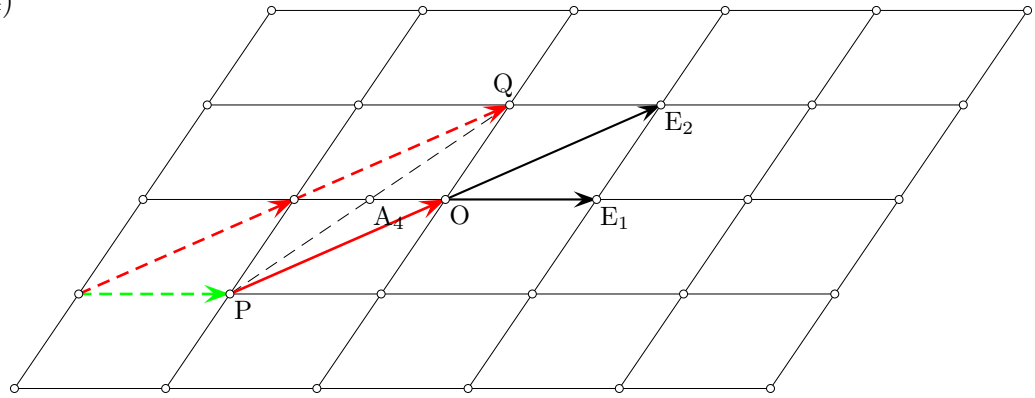
$$\overrightarrow{OA_2} = -\overrightarrow{OE_1} - \overrightarrow{OE_2} = \begin{pmatrix} -1 \\ -1 \end{pmatrix} \iff A_2(-1; -1)$$

3)



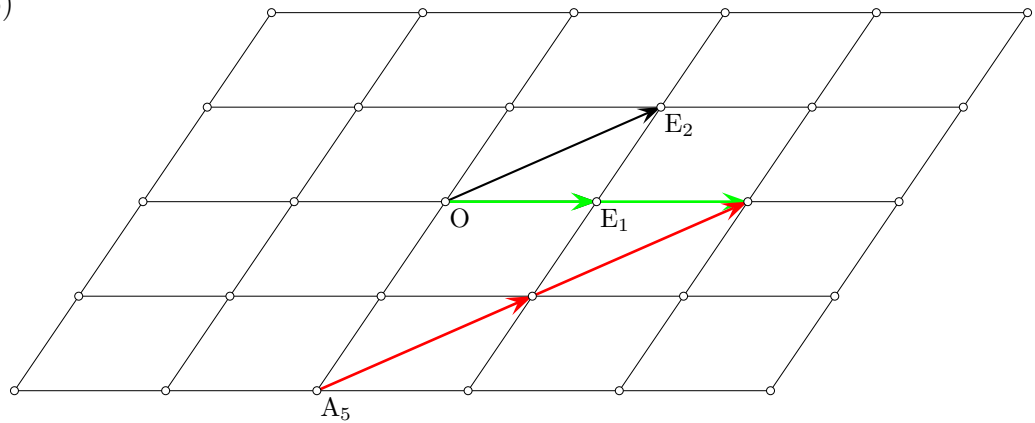
$$\overrightarrow{OA_3} = \overrightarrow{OE_2} - 3\overrightarrow{OE_1} = \begin{pmatrix} -3 \\ 1 \end{pmatrix} \iff A_3(-3; 1)$$

4)



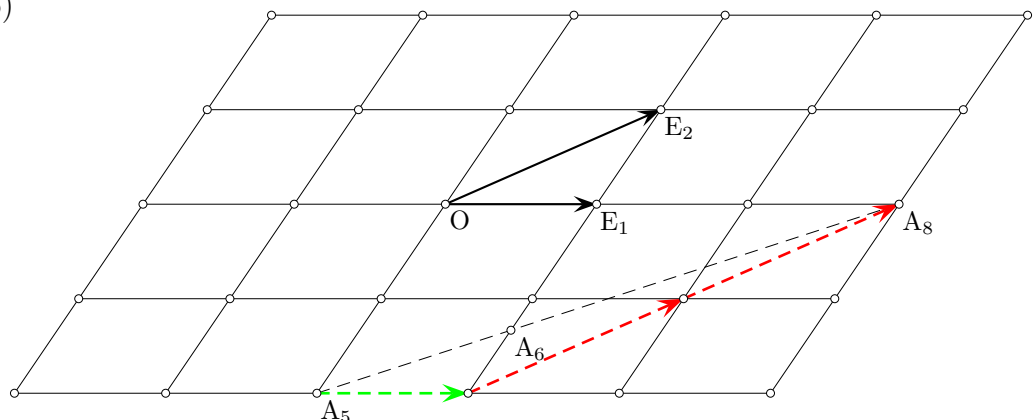
$$\begin{aligned}\overrightarrow{OA_4} &= \overrightarrow{OP} + \overrightarrow{PA_4} = \overrightarrow{OP} + \frac{1}{2} \overrightarrow{PQ} = \begin{pmatrix} 0 \\ -1 \end{pmatrix} + \frac{1}{2} \begin{pmatrix} -1 \\ 2 \end{pmatrix} \\ &= \begin{pmatrix} 0 + \frac{1}{2} \cdot (-1) \\ -1 + \frac{1}{2} \cdot 2 \end{pmatrix} = \begin{pmatrix} -\frac{1}{2} \\ 0 \end{pmatrix} \iff A_4(-\frac{1}{2}; 0)\end{aligned}$$

5)



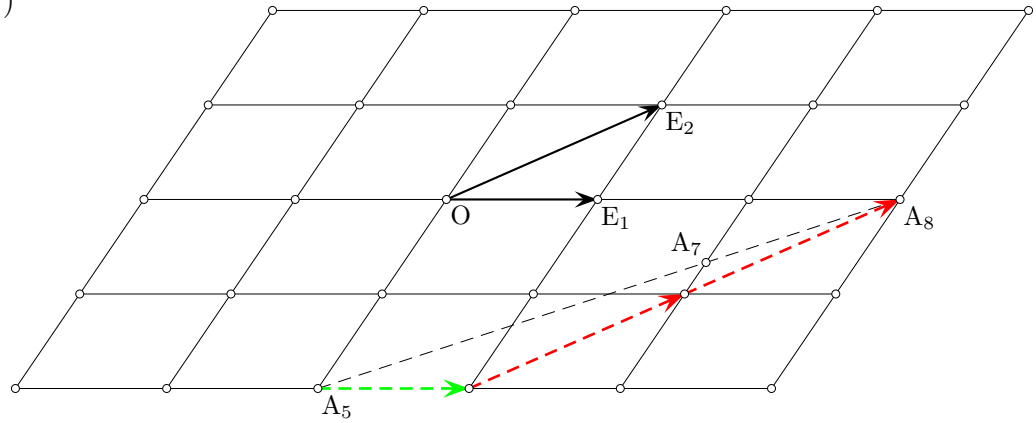
$$\overrightarrow{OA_5} = 2\overrightarrow{OE_1} - 2\overrightarrow{OE_2} = \begin{pmatrix} 2 \\ -2 \end{pmatrix} \iff A_5(2; -2)$$

6)



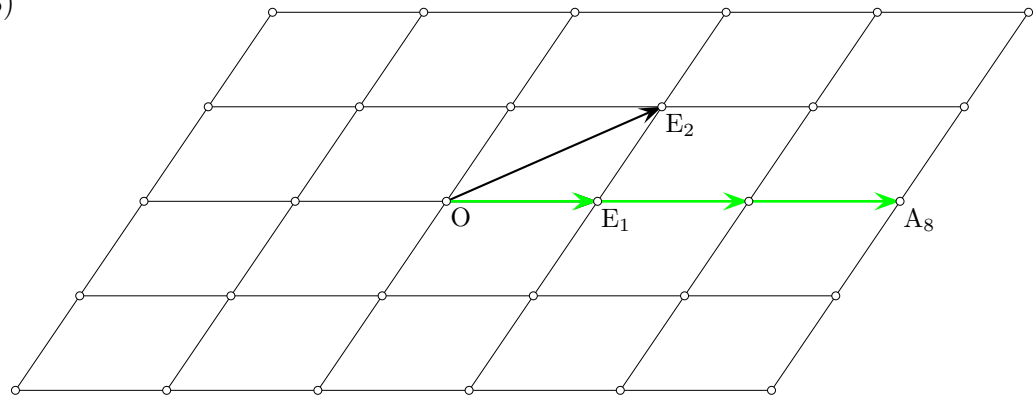
$$\begin{aligned}\overrightarrow{OA_6} &= \overrightarrow{OA_5} + \overrightarrow{A_5A_6} = \overrightarrow{OA_5} + \frac{1}{3} \overrightarrow{A_5A_8} = \begin{pmatrix} 2 \\ -2 \end{pmatrix} + \frac{1}{3} \begin{pmatrix} 1 \\ 2 \end{pmatrix} \\ &= \begin{pmatrix} 2 + \frac{1}{3} \cdot 1 \\ -2 + \frac{1}{3} \cdot 2 \end{pmatrix} = \begin{pmatrix} \frac{7}{3} \\ -\frac{4}{3} \end{pmatrix} \iff A_6(\frac{7}{3}; -\frac{4}{3})\end{aligned}$$

7)



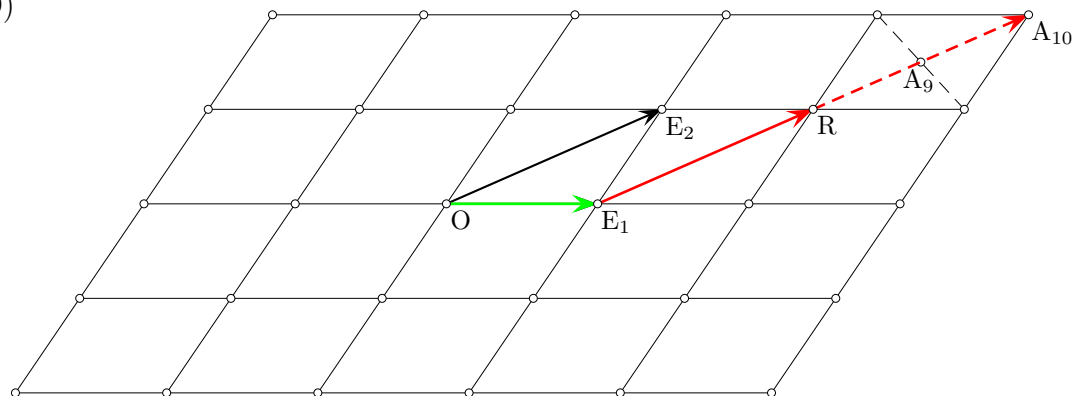
$$\begin{aligned}\overrightarrow{OA_7} &= \overrightarrow{OA_5} + \overrightarrow{A_5A_7} = \overrightarrow{OA_5} + \frac{2}{3} \overrightarrow{A_5A_8} = \begin{pmatrix} 2 \\ -2 \end{pmatrix} + \frac{2}{3} \begin{pmatrix} 1 \\ 2 \end{pmatrix} \\ &= \begin{pmatrix} 2 + \frac{2}{3} \cdot 1 \\ -2 + \frac{2}{3} \cdot 2 \end{pmatrix} = \begin{pmatrix} \frac{8}{3} \\ -\frac{2}{3} \end{pmatrix} \iff A_7\left(\frac{8}{3}; -\frac{2}{3}\right)\end{aligned}$$

8)



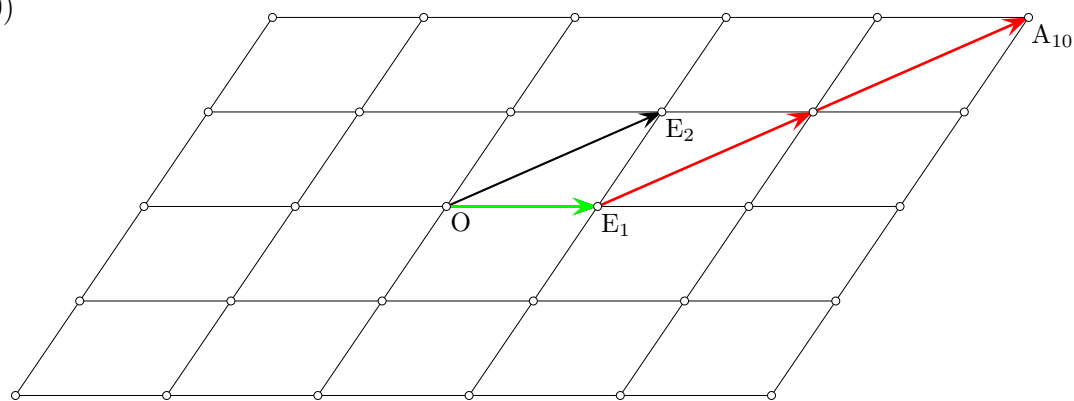
$$\overrightarrow{OA_8} = 3\overrightarrow{OE_1} = \begin{pmatrix} 3 \\ 0 \end{pmatrix} \iff A_8(3; 0)$$

9)



$$\begin{aligned}\overrightarrow{OA_9} &= \overrightarrow{OR} + \overrightarrow{RA_9} = \overrightarrow{OR} + \frac{1}{2} \overrightarrow{RA_{10}} = \begin{pmatrix} 1 \\ 1 \end{pmatrix} + \frac{1}{2} \begin{pmatrix} 0 \\ 1 \end{pmatrix} \\ &= \begin{pmatrix} 1 + \frac{1}{2} \cdot 0 \\ 1 + \frac{1}{2} \cdot 1 \end{pmatrix} = \begin{pmatrix} 1 \\ \frac{3}{2} \end{pmatrix} \iff A_9\left(1; \frac{3}{2}\right)\end{aligned}$$

10)



$$\overrightarrow{OA_{10}} = \overrightarrow{OE_1} + 2\overrightarrow{OE_2} = \begin{pmatrix} 1 \\ 2 \end{pmatrix} \iff A_{10}(1; 2)$$