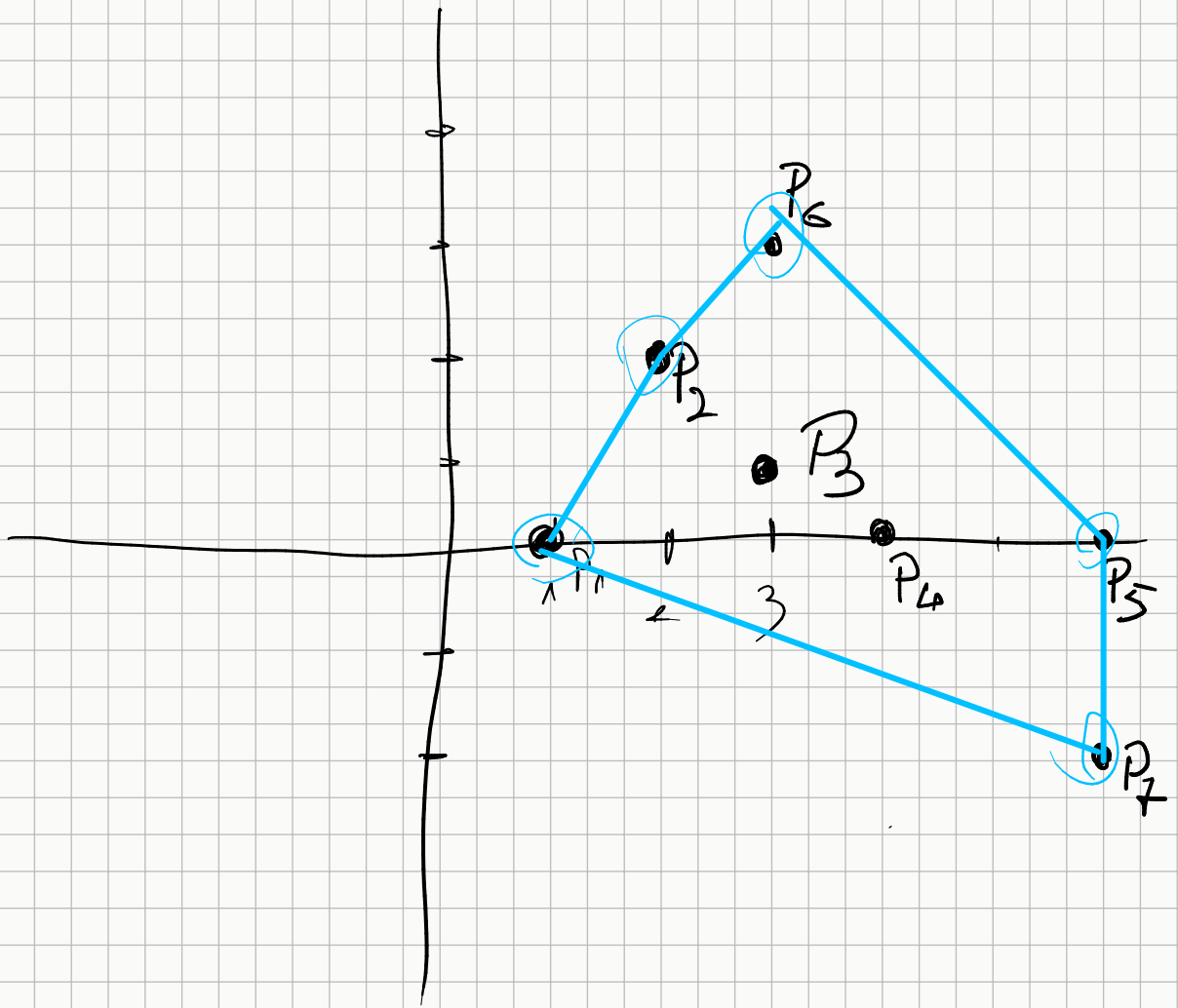
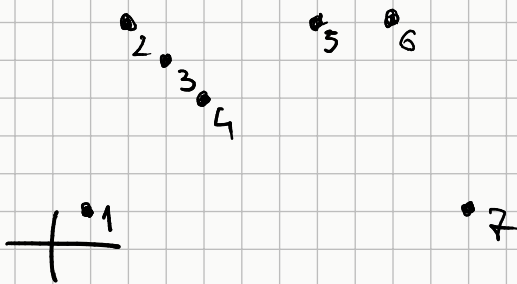


2.3



2.4



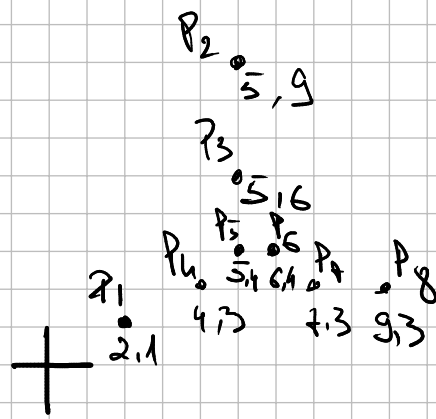
Graham Scan Inf.

1 → 2 → 3 → 4 → 5 → 6 → 7

Graham Scan Sup.

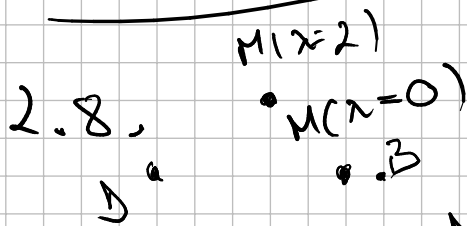
7 → 6 → 5 → 4 → 3 → 2 → 1

2, 7



Se începe cu  $P_1$  și pivot  $S = P_2$   
se testează în ordine  $P_3, P_4, \dots, P_7, P_8$ ,  
iar la fiecare  $P_i$  SP face unaj la  
dreapta, așa că S devine la fiecare

$M(x=5)$  pas  $P_i$ .



$M(x=2)$

$M(x=0)$

$M(x=-2)$

$M(x=-4)$

$M(x=-6)$

Observăm că

$$M_x + M_y = 5$$

$\Rightarrow M$  + variația lui  $x$   
determină dreapta

$$y = 5 - x$$

I  $\lambda < -6$

Ae înghitește  $\rightarrow$  4 puncte

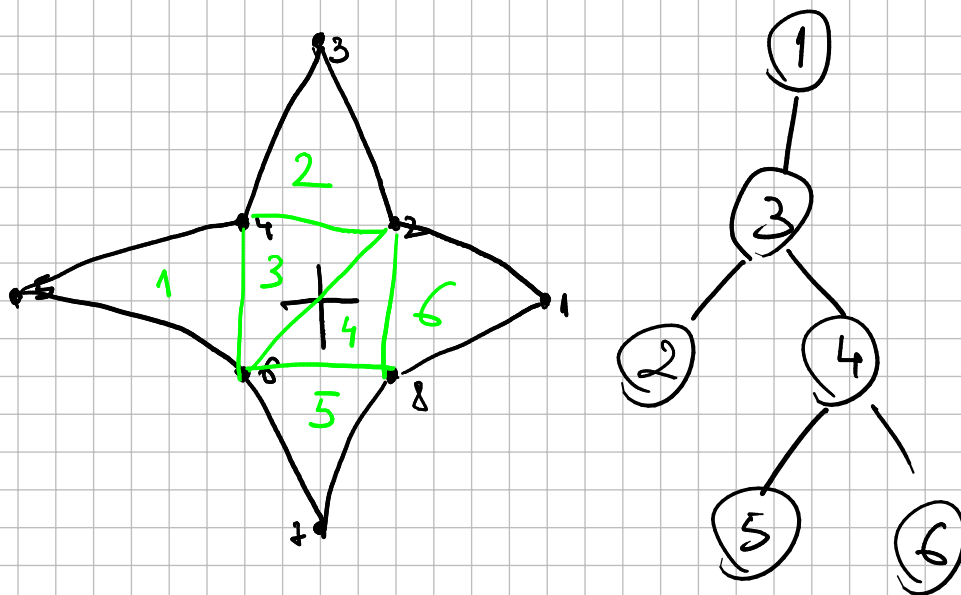
II  $-6 \leq \lambda \leq -1 \rightarrow$  5 puncte

III  $-1 < \lambda < 0 \rightarrow$  4 puncte (M înghitește)

IV  $0 \leq \lambda \leq 5 \rightarrow$  5 puncte

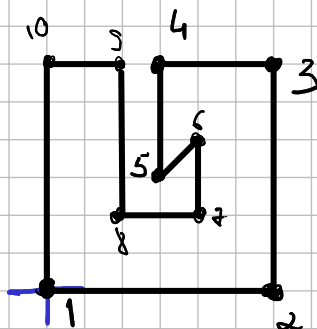
V  $5 < \lambda \rightarrow$  4 puncte (D înghitește)

3.4.



3.6

P	Princip	Cavex
1	Nu	Da
2	Nu	Da
3	Nu	Da
4	Nu	Da
5	Da	Da
6	Da	Nu
7	Nu	Nu
8	Nu	Nu
9	Da	Da
10	Da	Da



$$A(1,2)$$

$$d: ax + by + c = 0$$

d trece prin A, deci:

$$a + 2b + c = 0$$

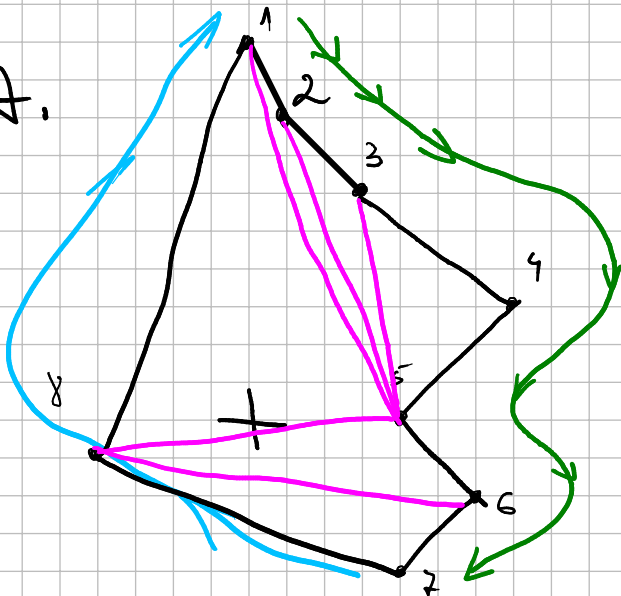
$$\left. \begin{array}{l} a = 1 \\ b = 1 \end{array} \right\} \Rightarrow c = -3$$

$$\left. \begin{array}{l} a = 0 \\ b = 1 \end{array} \right\} \Rightarrow c = -2$$

Sau ie  
verticala  
și orizontala

$$\begin{cases} y = 2 \\ x = 1 \end{cases}$$

3.4.



este y-monoton

$P_1$     $P_1$     $P_1$     $P_1$     $P_5$     $P_8$     $P_6$   
 $P_1$     $P_1$     $P_1$     $P_1$     $P_1$     $P_5$     $P_8$

Dreapta perpendiculară

$$x - 2y + 3 = 0$$

$$\Leftrightarrow 2y = x + 3 \Leftrightarrow y = \frac{1}{2}x + \frac{3}{2}$$

↓  
panta

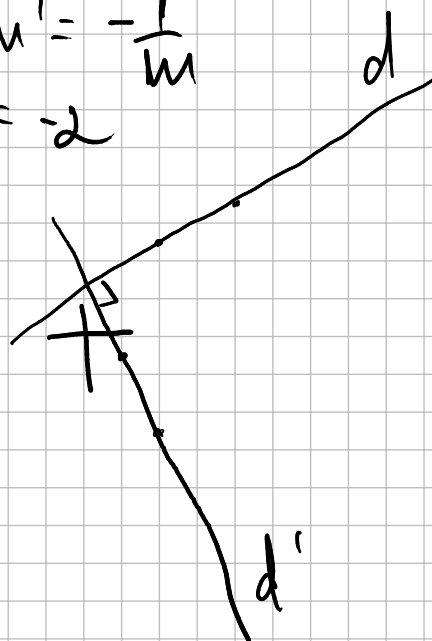
$$m = \frac{1}{2}$$

$m' \Rightarrow$  panta perpendiculară

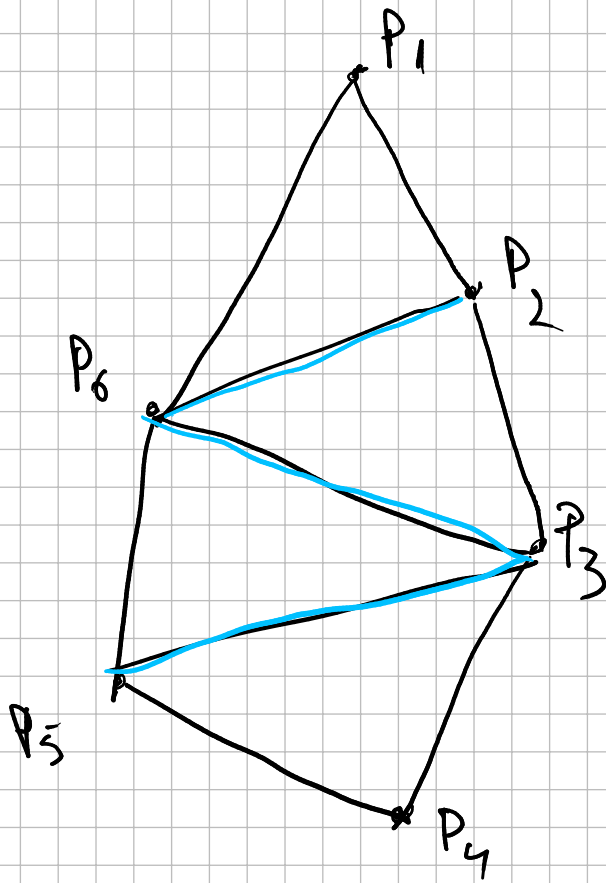
$$\begin{aligned} m \cdot m' &= -1 \\ \Rightarrow m' &= -\frac{1}{m} \\ \Rightarrow m' &= -2 \end{aligned}$$

$$d: y = \frac{1}{2}x + \frac{3}{2}$$

$$d': y = -2x + \frac{3}{2}$$



3.9

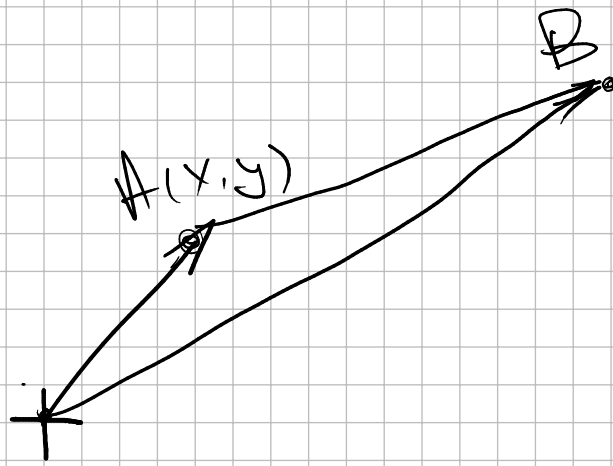


	$P_2$	$P_2$	$P_6$	$6$
$P_1$	$P_1$	$P_6$	$P_3$	$P_5$

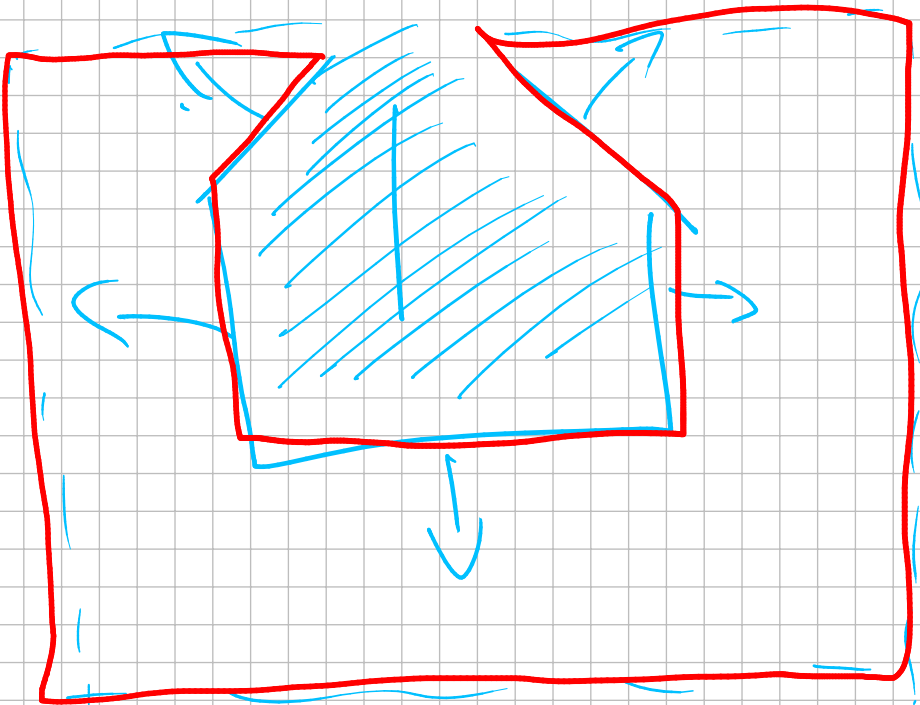
se mîna

doar pe cazul 2  
 pentru că altm  
 lant, mîla la  
 fiecare pas

7.3.



$$\vec{AB} = \vec{B} - \vec{A}$$



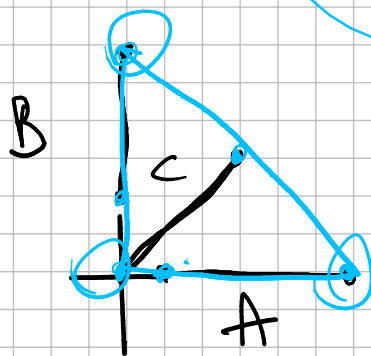
$P_2$  se  
Scout

$(2M - K - 2)$  Führungslinie

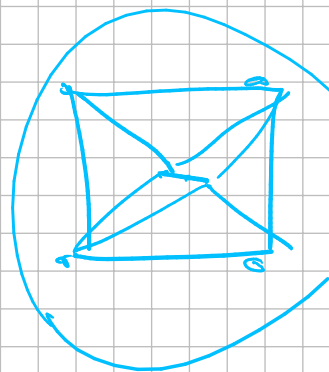
$(3M - K - 2)$  Muchie

M = 123

$K = 51 + 41 + 2$   
 $= 94$



$K = 3$



~~$(246 - 94 - 2)$~~   $\Delta$  241

~~$(368 - 94 - 2)$~~  Muchie 363

$2M - K - 2 = 6$

$3M - K - 3 = 11$

~~$M = 5$~~   ~~$K = 12$~~

$M - 1 = 5$

$M = 6$

$10 - K = 6$

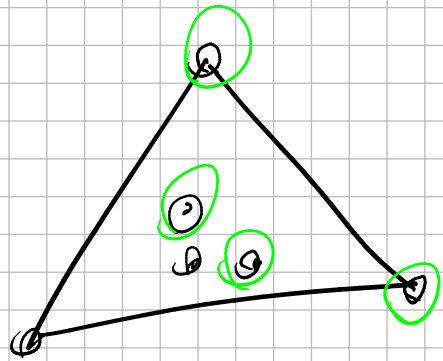
$K = 4$



4. 6

$$M = 6$$

$$18 - K - 3 = 12$$



$$K = 3$$

$$12 - K - 3 = 5$$

$$K = 4$$

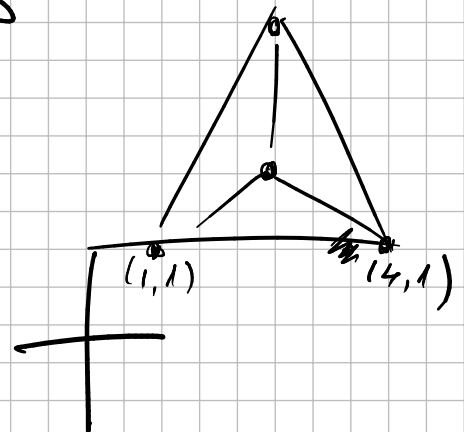
4.8 a)  $3M - K - 3 = 6$

$$3M - K = 9$$

$$K = 3$$

$$3M = 12$$

$$M = 4$$



3 feste

$$b) \quad 3M - K = 9 \quad M = 3$$

$$K = 3M - 9$$

$$M \geq K$$

$$\Leftrightarrow M \geq 3M - 9$$

$$0 \geq 2M - 9$$

$$9 \geq 2M \Rightarrow$$

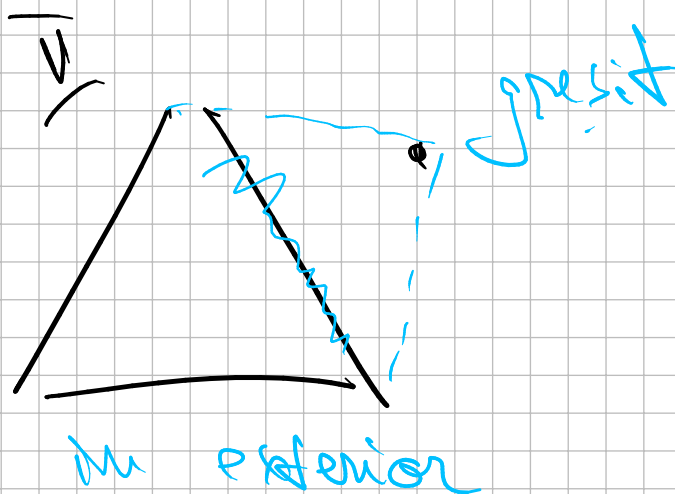
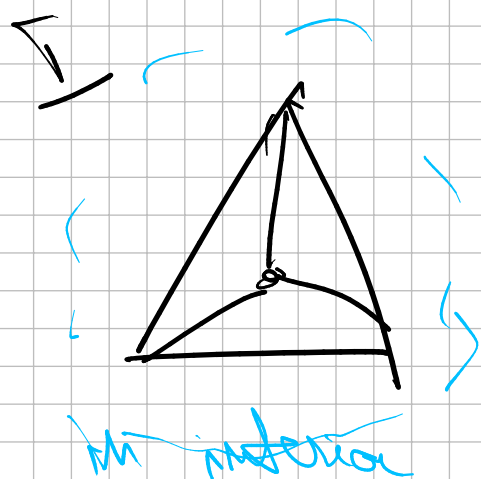
$$4,5 \geq M$$

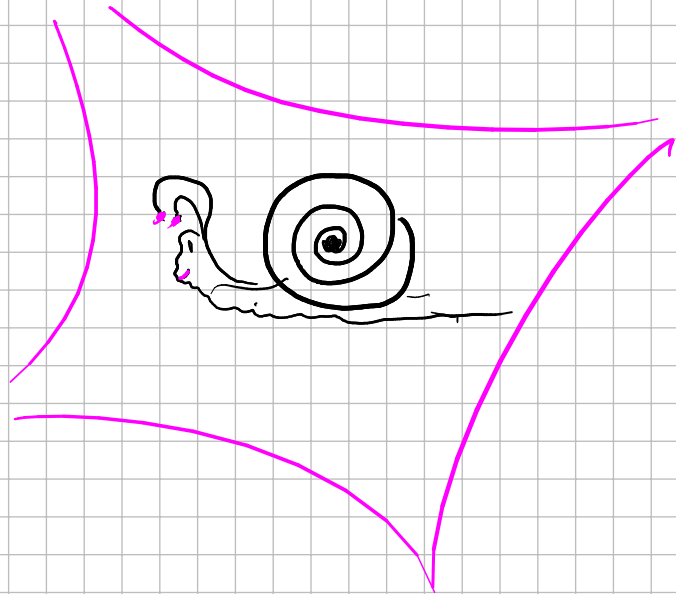
$$M \leq 4$$

Avem doar o solutie

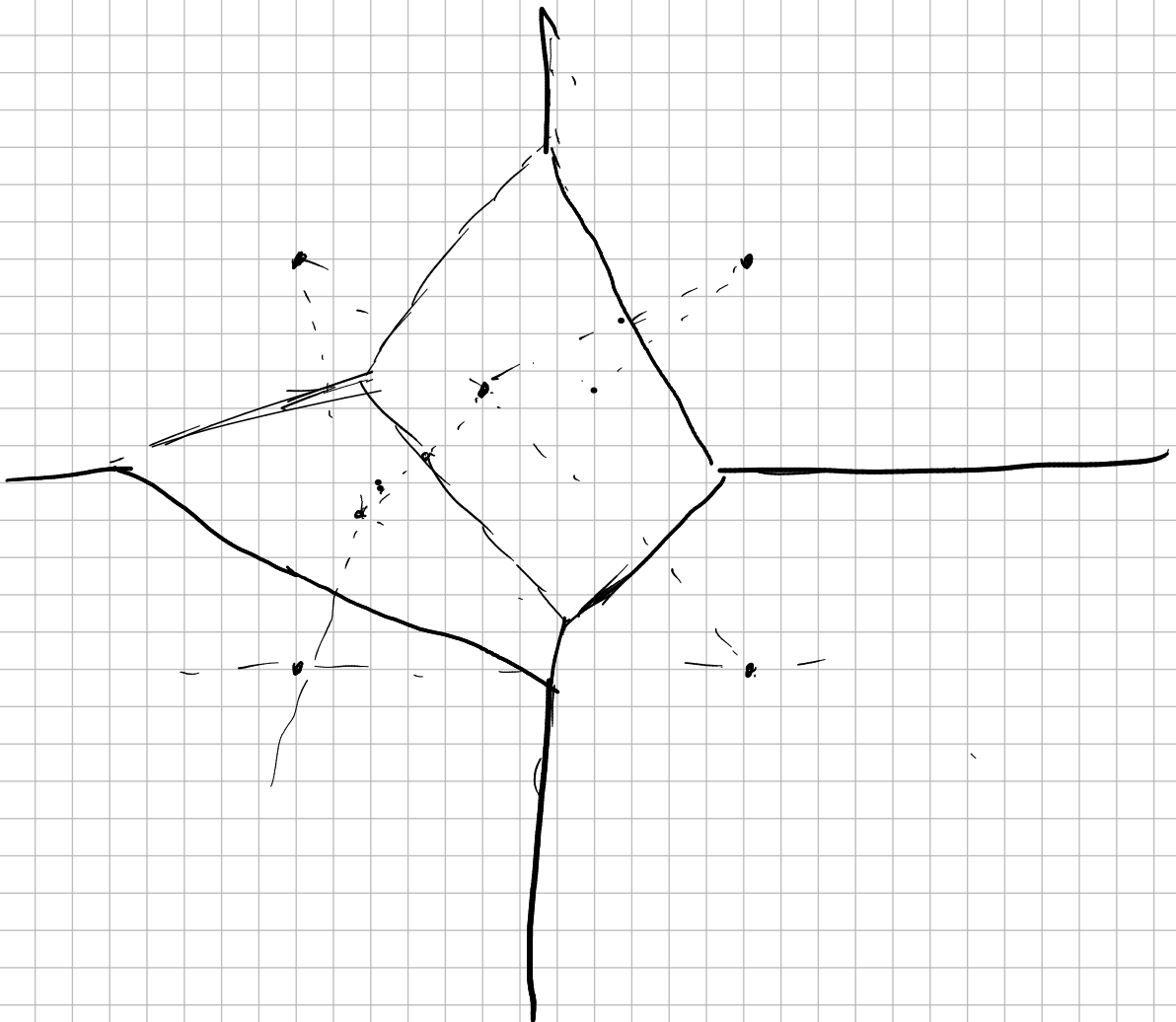
cu 4 puncte si 6 muchii

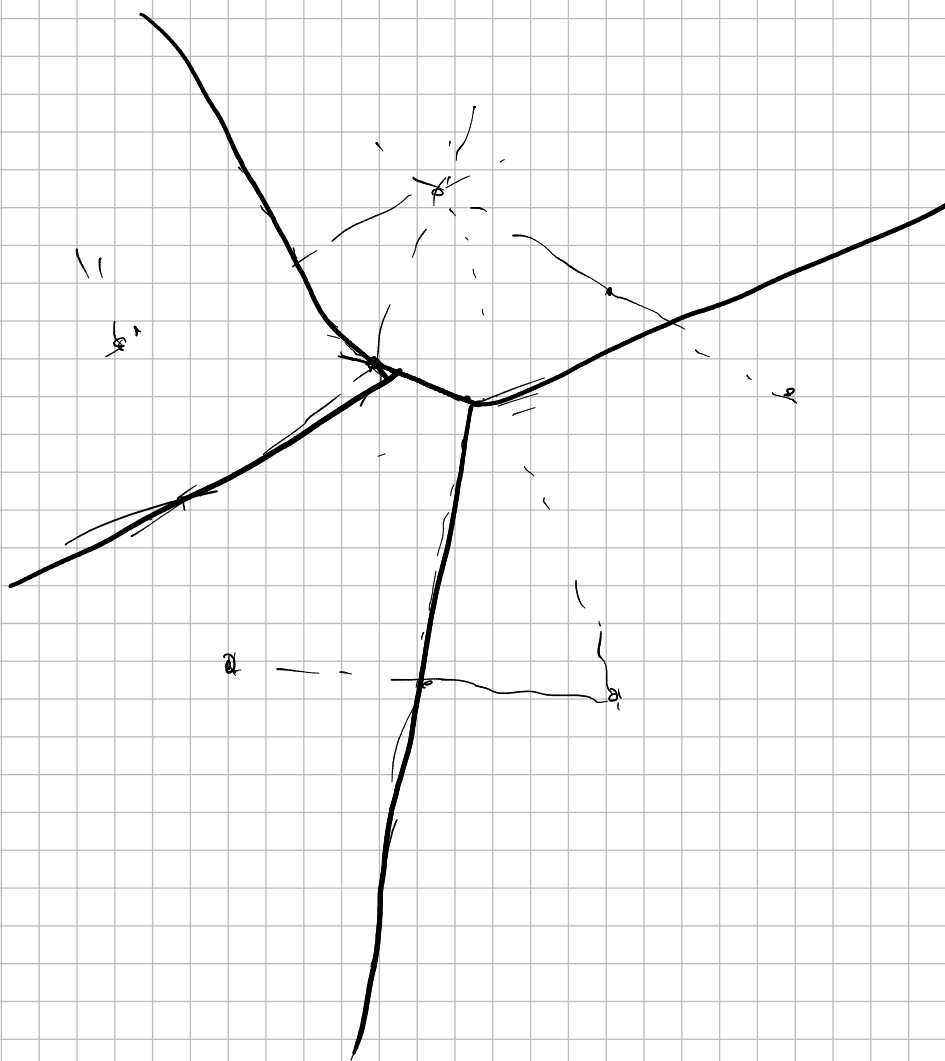
$K = 3 \Rightarrow$  acoperirea este un triunghi





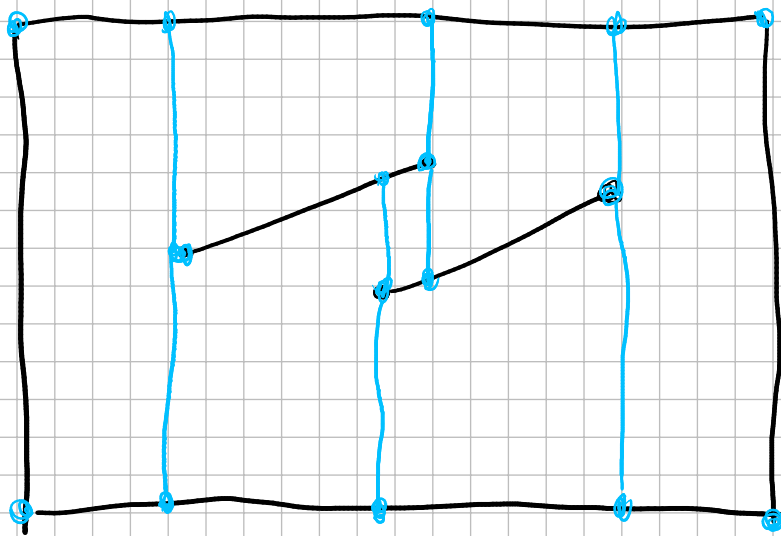
5.1



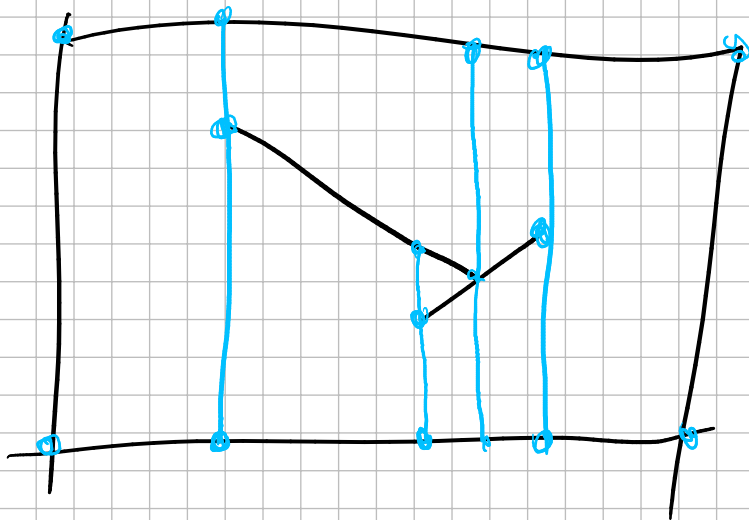


# Examen 4.

2 segmente  $\rightarrow 12 + 4$  värfuri  
maximum



$\rightarrow 16$   
maximum

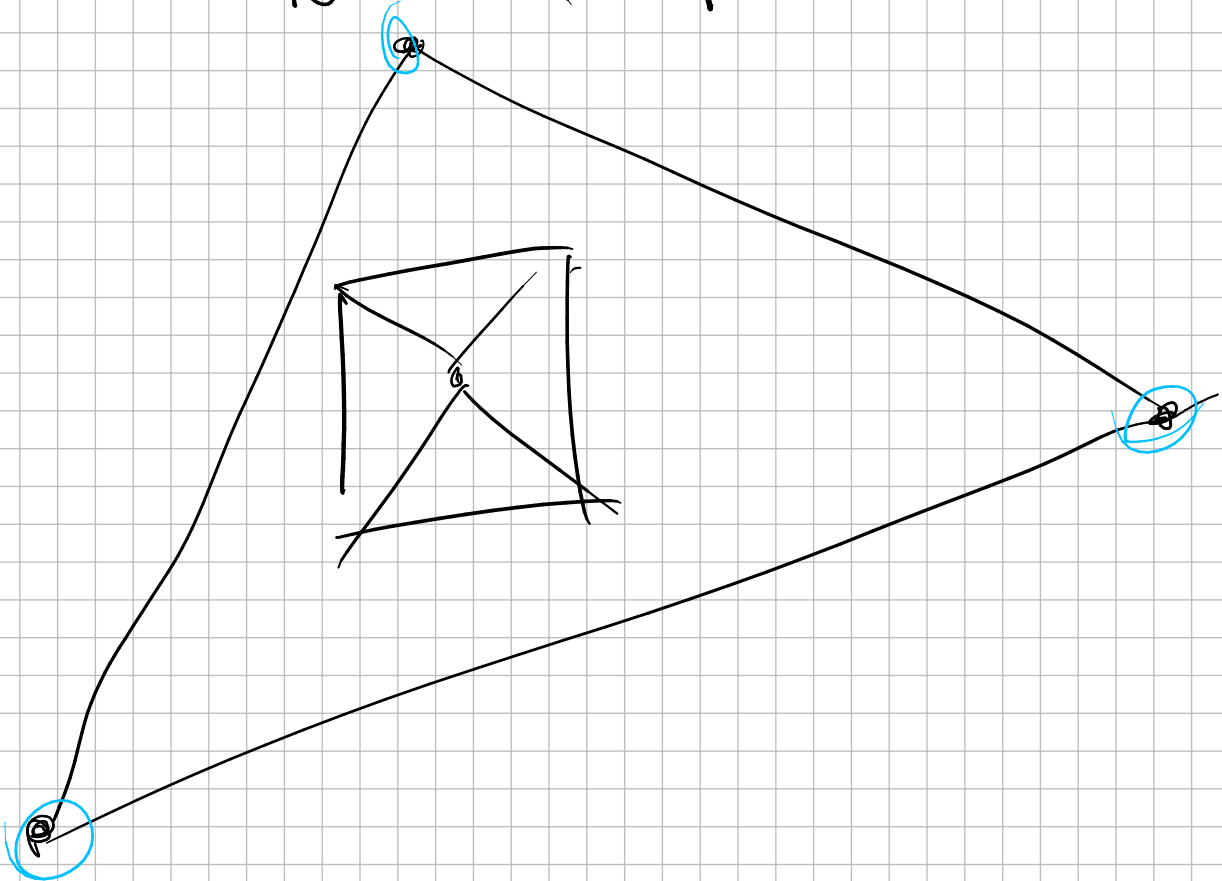


$\rightarrow 15 < 16$   
 $\therefore$

6. a)  $2M - K - 2 = 4$   
 $3M - K - 3 = 8$

$\Rightarrow M - 1 = 4 \Rightarrow M = 5$

$\Rightarrow K = 10 - 2 - 4 = 4$



3.

