

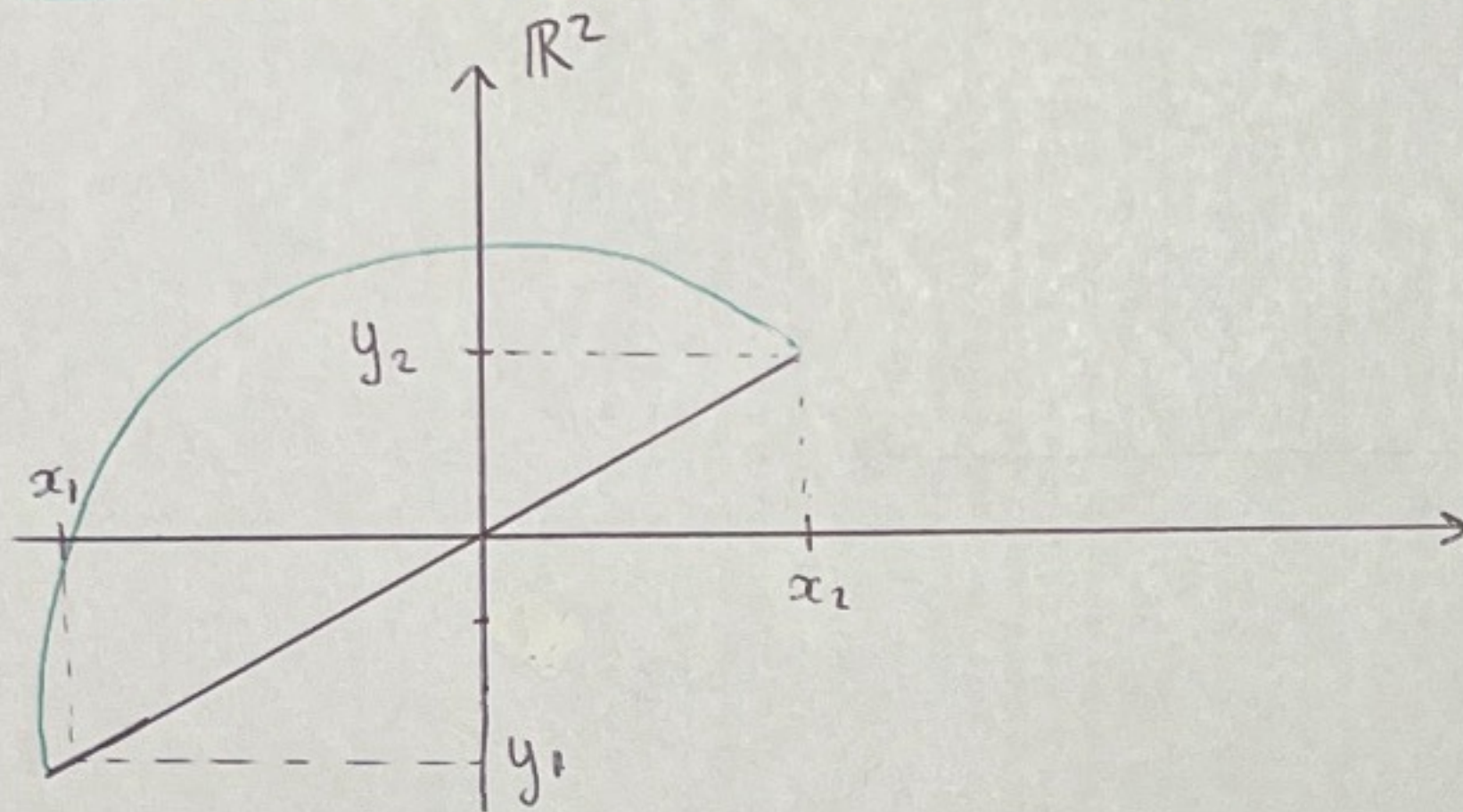
Exercice 552 (suite)

$\|x\| \neq 0$ car $\exists j$ tq $a_j \neq 0$ et $(X_i)_i$ est libre.

$$\lambda = \frac{\|x\|^2}{A^T A} \in \mathbb{R}_+^*$$

donc $\det(M) > 0$ donc $M \in GL_n(\mathbb{R})$.

Exercice 695 (William)

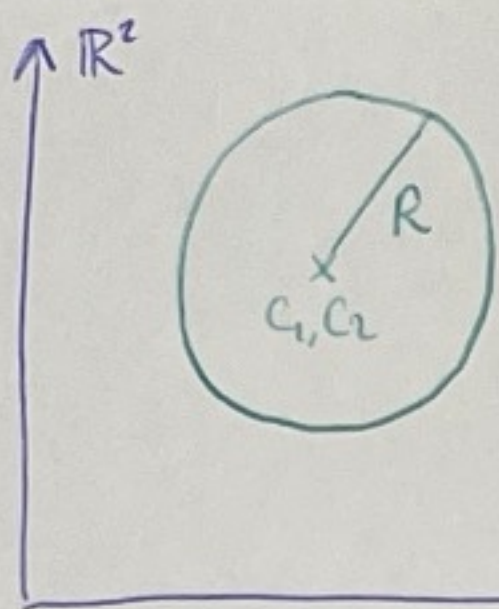


(a) $t \in [0, 1] \mapsto \dots$



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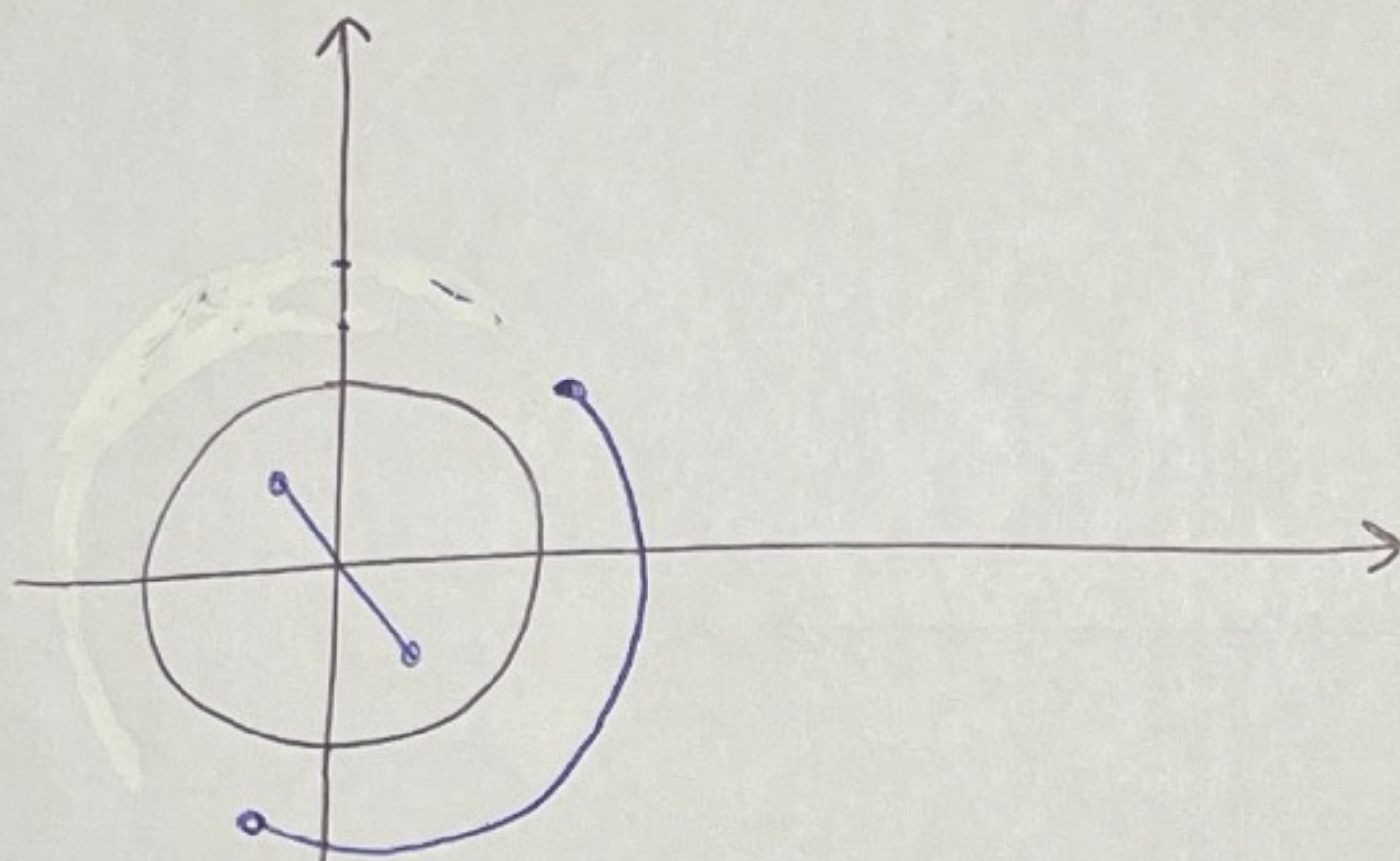


$$x(t) = c_1 + R \cos t$$

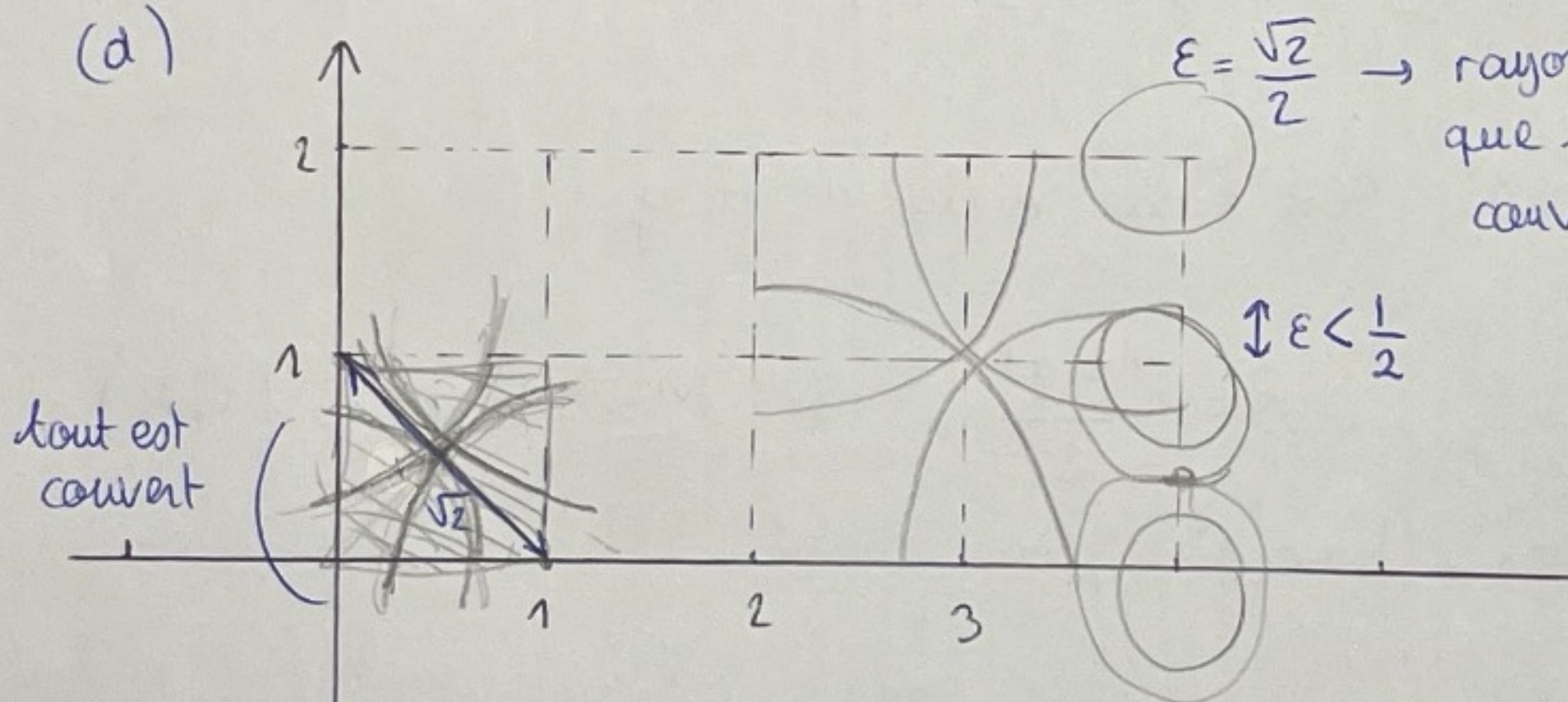
$$y(t) = c_2 + R \sin t$$

→ On peut passer d'un point à un autre de manière continue
(arc de cercles, segments...)

(c)



(d)



$\epsilon = \frac{\sqrt{2}}{2} \rightarrow$ rayon limite pour que l'union des boules couvre le plan.

$$\epsilon < \frac{1}{2}$$

$\frac{1}{2} < \epsilon < \frac{\sqrt{2}}{2}$) on aura des "étoiles"

$$0 < \epsilon < \frac{1}{2} \Rightarrow \mathbb{R}^2 \setminus \bigcup_{i \in \mathbb{Z}^2} B_0(i, \epsilon) \text{ est connecté}$$



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