Some curiosities about cabri: analitic geometry as a tool for teacher training

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At the Universidad Autónoma de Querétaro courses on analytical geometry, at the baccalaureate, are taught by people whose prime formation is not as mathematicians. Motivated by the need for updated courses as well as for skilled teachers, efforts are done to develop new didactic strategies for analytical geometry courses.

In this note we are concerned with teacher training for analytical geometry courses. Traditionally, analytical geometry is based on the concept of a plane whose coordinate axes form a 90^o angle: Why not to consider a different angle introducing in this way several coordinate frames?

In particular, using new technologies and the software CABRI Geometre II, we deal with questions such as:

- How does the formula used to compute distance is modified if the coordinate axes are not orthogonal?
- How does the concept of slope changes?
- What happens with the straight line equation?
- What can be said about the different geometric loci?

We try to make teachers to became familiar with the mathematical rationale by questioning several fundamental concepts of analytical geometry in order to gain more insight on them.

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