Learning More by Solving Series of Problems

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Solving problems using a CAS-enabled calculator can be done at two hierarchical levels. The first one consists of solving isolated assignments. At the second level, students can start discussing relationships between those virtually unrelated problems. Results of those seemingly "haphazard" tasks may motivate them to form ideas, verify, modify, improve and generalize them. Using proper sets of problems, teachers then can lead their students to a sort of deeper knowledge – to creating hypotheses. The authors use the CASIO ClassPad calculators in secondary and early stages of tertiary Mathematics education and occasionally apply the above approach.

During our 60-minute hands-on workshop, we will demonstrate several outcomes of these educational experiments and explain in which fields of Mathematics they can be efficiently exploited. Sample areas are: L'Hospital's rule, instability of solutions of systems of linear equations, analytical geometry, animations in geometry, touching graphs, rolling geometric figures.

The workshop participants can play the role of learners. They are also invited to discuss and express their opinions on even more effective exploitation of this flexible tool.

No previous experience with CASIO ClassPad is needed.