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Students' comparison of their trigonometric answers with the answers of a computer algebra system in terms of equivalence and correctness.

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Summary: The answers offered by computer algebra systems (CAS) can sometimes differ from those expected by the students or teachers. The comparison of the students' answers and CAS answers could provide ground for discussion about equivalence and correctness. Investigating the students' comparison of the answers gives the possibility to study different questions: Are students able to ascertain equivalence/non-equivalence? How do they understand correctness of the answers? Are there any differences in this regard between different types of equations and answers? The paper is based on the lessons from a course in elementary mathematics for first-year university students. The students were paired up and given worksheets with trigonometric equations and questions. Initially, the students solved an equation (correctly or not) without a CAS and then with a particular CAS-WolframAlpha. They were given questions, guiding them to analyse the differences, equivalence and correctness of their own answers and CAS answers.

Classification: U70 D50 G60

Keywords: computer algebra systems; trigonometry; comparison of answers; equivalence of answers; problem solving

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