

Exploration of the Levels of Mathematical Proficiency Displayed by Grade 12 Learners in Responses to Matric Examinations

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ABSTRACT This paper presents grade 12 learners' levels of mathematical proficiency exhibited in response to matric mathematics examination questions in the Gauteng Province in South Africa. Document analysis was used on n = 90 learners' scripts on four topics, namely, sequences and series, differential calculus, analytical geometry and trigonometry. Findings revealed that on the four topics, learners were most proficient in examination questions on analytical geometry that tested only procedural knowledge. However, a majority of learners were not proficient in examination questions that tested conceptual knowledge on analytical geometry. Furthermore, most learners were not proficient in examination questions on sequences and series, differential calculus as well as trigonometry on both procedural and conceptual knowledge. Such findings implied that it was most likely that learners left high school without being proficient on these topics, which incidentally formed the bulk of the prerequisite mathematics course in engineering and other natural science programs at university.