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ABSTRACT

This study aims to explore Form Four students' written responses to selected tasks in Algebra for their understanding of the meaning of quadratic equations and roots of quadratic equations, and the methods of solving quadratic equations.

The subjects of this study comprised five Form Four science students from a national girls' school. The instrument used was designed to elicit responses from students in quadratic equations. Individual interviews were conducted to further clarify the writings. The data from the written responses and interviews were then analyzed to explore the kinds of understanding the students had.

The findings of the study show that students' understanding were mainly concerned with applying rules that they remembered. Most of the written responses on the meaning of quadratic equations and roots of quadratic equations were theoretical while those on methods of obtaining roots of quadratic equations were algorithmic.

PERSAMAAN KUADRATIK DALAM ALGEBRA: ANALISIS RESPONS BERTULIS PELAJAR TINGKATAN EMPAT

ABSTRAK

Kajian ini bertujuan mengkaji respons bertulis pelajar Tingkatan Empat mengenai beberapa tugas terpilih dalam bidang Algebra untuk menentukan kefahaman mereka tentang maksud persamaan kuadratik dan punca persamaan kuadratik serta cara-cara menyelesaikan persamaan kuadratik.

Subjek kajian ini terdiri daripada lima orang pelajar Tingkatan Empat Sains daripada sebuah sekolah menengah kebangsaan perempuan di Wilayah Persekutuan. Instrumen yang digunakan telah direka khas dengan tugas-tugas yang merangsang pelajar memberi respons. Temuduga telah dijalankan bagi menjelaskan perkara-perkara yang menimbulkan ketidakpastian. Data daripada respons bertulis dan temuduga dianalisis untuk penentuan jenis kefahaman yang diperolehi pelajar.

Dapatan kajian ini menunjukkan bahawa kefahaman pelajar adalah setakat penggunaan peraturan-peraturan yang telah dihafalkan. Penulisan pelajar mengenai maksud persamaan kuadratik dan punca persamaan kuadratik bercorak teori, manakala mengenai kaedah mencari punca persamaan kuadratik mengikuti algoritma.

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