ISSN 0975-1122
International Journal of
EDUCATIONAL SCIENCES

PRINT: ISSN 0975-1122 ONLINE: 2456-6322
Int J Edu Sci, 12(1): 7-15 (2016)
DOI: 10.31901/24566322.2016/12.01.02

Exploring Learner Errors in Solving Quadratic Equations

J. P. Makonye[1] and O. Matuku[2]

[1]School of Education, University of Witwatersrand, Number 27 St Andrews Road, Parktown, 2050, Johannesburg, South Africa
[2]At Technical High School Langlaagte, Johannesburg, South Africa
Telephone: +27117173206, Fax: +27862076533,
E-mail: [1]<Judah.makonye@wits.ac.za>, [2]<olinahmatuku@yahoo.com>

KEYWORDS Armature Concepts. Learning Algebra. Solutions

ABSTRACT The study focuses on exploring grade 11 learner errors and misconceptions in solving quadratic equations at a secondary school in Gauteng Province in South Africa. The study identified learners' errors and misconceptions in solving quadratic equations and investigated why learners made those errors. Both qualitative and quantitative designs were used in the study. To collect data, learners solved quadratic equations tasks by factoring, completing the square and using the quadratic formula. Thereafter, semi-structured interviews were conducted with six learners. The selection of these learners depended on the type of errors shown on their scripts. The findings of the study revealed that the learners' lack algebraic competency encumbered their solutions to quadratic equations. The researchers recommend that more research be undertaken to determine the impact of teaching when learners' identified errors and misconceptions in solving quadratic equations shown in this study are used as instructional resources.