

# REVEAL THE ALTERNATIVE MATHEMATICAL CONCEPTS AMONG THE THIRD-GRADE FEMALE STUDENTS IN RIYADH CITY

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**ABSTRACT\_** *This study aimed to reveal the alternative mathematical concepts among the third-grade female students in Algebra. To achieve this goal, the descriptive survey has been used. The two parts of all middle school mathematics books (I and II) were analyzed. The survey sample consisted of (679) female third grade students of (19) public school for girls of the Department Education in Riyadh, they were selected by the random cluster way. this study used two tools: a list of algebraic mathematical concepts, the test alternative mathematical concepts detection among the middle school third grade female students. The veracity and persistence of the two tools were confirmed. The final form of the concepts list consisted of (41) concepts and the test consisted of (41) questions a concept is corresponded to each question. The results have been analyzed after test applied using a number of statistical methods: frequencies and percentages for detection of alternative mathematical concepts among female students. the study results showed that; there is a weakness in third grade female students' acquisition of algebraic mathematical concepts, it also found alternative scenarios for many of algebraic mathematical concepts. The range of female students who have alternative scenarios was between (13.5% - 90.3%) and proportion of alternative concepts (73.2%). the study made some recommendations and suggestions including: the need to the early detection of alternative conceptions among learners at the beginning of the school year and paying attention to modify these perceptions and their treatment.*

**KEY WORDS:** *Mathematical concepts, alternative concepts, algebraic concepts, alternative algebraic concepts. Perceptions error*