This study was designed to investigate factors that contribute to poor performance in Mathematics by the hearing-impaired learners in standard eight in KCPE examinations. Ex-postfacto research design was employed in this study. It was conducted in three primary schools for children who were hearing-impaired in Nyanza Province, Kenya. The random sampling using lottery techniques was employed to select a sample of three schools out of the four schools for children with hearing-impairment. The study was further conducted using 64 standard eight pupils who were hearing impaired preparing to sit their KCPE examination in Mathematics. The sample size for both the teachers and pupils was seventy (70). Piloting was conducted in the remaining fourth school to determine the validity and reliability of the tools. Data collection tools constructed were questionnaires, Mathematics Trial Test for standard eight and observation checklist. These were pre-tested and compared using Pearson's Product Moment Correlation Coefficient, the value of $r$ calculated was $r = 0.71$. The tools were then used during the study to collect the data. Data from the questionnaires and observation checklist were analyzed using descriptive statistics (graphs, tables and percentages). The t-test was used to analyze data from Mathematics Trials Test to verify the effect of gender and time differences on the performance of pupils with hearing-impairment in Mathematics. It was found out that some of the factors leading to poor performance in Mathematics by the learners who were hearing-impaired were deficit in skills and methods of teaching Mathematics, the level of curriculum content being too difficult, and time allocated for both the curriculum coverage and examination was too short. The effect of gender difference, though identified, was not a major factor. It was therefore, recommended that teachers use more varied strategies in teaching Mathematics to the learners with hearing-impairment, the level of curriculum content and examinations be modified to suit their level of performance. Time allocated for both curriculum coverage and sitting for examination in mathematics be increased for the learners with hearing-impairment.