

AN APPLICATION FOR THE USE OF PHOTOMATH ACTIVITY IN ANALYTICAL EXAMINATION OF CONIC SECTION: HYPERBOLE EXAMPLE

Doç. Dr. Aytaç Kurtuluş
Eskişehir Osmangazi Üniversitesi
Eđitim Fakültesi, İlköđretim Bölümü
agunaydi@ogu.edu.tr

Abstract

The intersection curves formed by the intersection of a cone and a plane at different angles are defined as conic sections. These curves are obtained as hyperbola, ellipse and parabola. A hyperbolic curve is obtained when the intersection is taken with a plane perpendicular to the base of a cone. Hyperbola is the geometric location of points whose distances to fixed two points in the plane have a constant difference and the algebraic equation (representation) of hyperbola is definite. In this study, firstly, the analytical examination of conics were given to primary school mathematics teacher candidates. Secondly, they are asked to write a problem by observing the hyperbola samples in their surroundings and taking photographs of the appropriate ones. When the subjects photographed as hyperbolic examples of participants were examined, it was noticed that some of them ignored the fact that hyperbola was a symmetrical curve. It can be said that these teacher candidates are lacking in determining the geometrical representation of hyperbola. When examining the problems set up by prospective teachers, it is seen that in some cases the visual and the problem do not match, some basic concepts of hyperbola are frequently used but the asymptotics are not considered too much. It can be said that most of the candidates constitute routine problems.

Keywords: Conic sections, hyperbola, photo-math activity.