INTRODUCTION

In [1], J. Hattakosol has studied seminear-fields. She showed that there are 4 types of special elements in a seminear-field which she called category I,II,III and IV special elements. (In [1], she actually used the words category I,II,III and IV seminear-fields.) She was succesful in studying category I,III and IV special elements of seminear-fields but did not prove many theorems concerning category II special elements.

In this thesis we study category II special elements in a seminear-fields and we give a generalization of seminear-fields.

In Chapter I, we introduce some notations, give definitions and recall some theorems that will be used.

In Chapter II, category II special elements of seminear-fields are studied. We are able to show all possible ways that such seminear-field can arise from a ratio seminear-ring and we compute all finite seminear-fields containing a category II special element up to isomorphism.

In Chapter III, we study generalized seminear-fields and show that there are 6 types of special elements in a generalized seminear-field which we call category I,II,III,IV,V and VI special elements. We only study category V and VI special elements of a generalized seminear-field because category I,II, III and IV special elements of a generalized seminear-field were studied already in [1] and Chapter II. Generalized seminear-fields containing a category V special element are shown to be of order

2 and we give a complete classification of category VI special elements of generalized seminear-fields.

In Chapter IV, we study embedding theorems.