Acknowledgements

Acknowledgement is given to Professor Don McNeil, Macquarie University, Australia and Associate Professor Vindee Saklertwachara, who helped me and gave suggestions in my thesis. I would like to thank Assistant Professor Dr. Pengari Vanisapavarng and Assistant Professor Dr. Teerapong Kaenis for examining the thesis. I would like also to thank Dr. Yupadee Chaistaksat, Dr. Naiyana Sridai Mrs. Muta Kuning for their assistance and suggestions. I would like also to thank the directors of high school and high school students in Songkhla province for providing the data. I would like to express my thanks to all the teachers and staff of the Department of Applied Mathematics and Computing, Science and Technology Faculty of Prince of Songkla University for giving me helpful advice. The Graduate Prince of Songkla University Pattani Campus Scholarship Award for their financial support for this thesis. A note of appreciation is also acknowledged to my friends who helped throughout the entire study.

Especially, I would like to thank my parents and Maj. Sowat Sathasan for their support and encouragement.