

Lesson #13 A (IN-CLASS ASSIGNMENT): Solving Application of Polynomial Functions and Equations
(Reference: Lesson #62, #65, #66, #76, #85, #95 & #106 in text book)**Problem**

1. Solve each of the following application problems using what you have learned in class about solving polynomial function and equations. (Create the polynomial equation and SHOW ALL OF YOUR WORK in solving the equation.) (HINT: Sometimes drawing a diagram with what is going on will help you get started doing these problems.)
 1. A garden that is 4 meters wide and 6 meters long is to have a uniform border such that the area of the boarder is the same as the area of the garden itself. Find the width and length of the boarder itself.
 2. A rectangular garden is 30 ft by 40 ft. Part of the garden is removed in order to install a walkway of uniform width around it. The area of the new garden is one-half the area of the old garden. How wide is the walkway?
 3. An open box is to be made from a rectangular pieve of sheet metal 15 inches by 9 inches by cutting squares from the corners and turning up the sides. Let x be the length of the sides of the squares removed. Find x so that the volume of the resultant box is 56 cubic inches. Then, determine the dimensions of the box.
 4. Adam has designed a rectangular storage unit to hold large factory equipment. His scale model has dimensions of 1m by 2m by 4m. Adam however is afraid that his storage unit will be to small to hold what they are looking to hold so Adam has determined to increase the storage volume by 9 times to account for the equipment they are looking to store. By what amount should he increase each dimension by to produce an actual storage unit that has 9 times the volume of his scaled model?