# EDUC 272 Mathematics Teaching and Learning II Pre-course Assignment 4 

## Designing Problem Solving: Provide a written response to each of the following questions and bring your responses to our first class in April 2016.

Planting Trees. A community member plants fruit trees ( $(\bullet)$ in a square pattern. To protect the trees from wind and goats the community member plants acacia trees ( $\mathbf{x}$ ) all around the fruit trees. Below is the pattern of fruit and acacia trees the community member uses for any number of ( n ) rows of fruit trees.

- = fruit trees
$x=$ acacia trees


Assume the pattern continues for other rows of fruit trees. Draw the pattern for $\mathrm{n}=5$ rows of trees.

Consider the mathematical pattern to determine the number of acacia trees needed for 10 rows of fruit trees?

1. Solve the math problem. Show all your work. (10 marks)
2. What mathematical ideas and concepts might students find difficult or challenging with this problem? (4 marks)
3. Select one challenge you discussed above in Question 2 and discuss how you would respond as teacher (5 marks)
4. In what ways is this mathematics in the problem Planting Trees similar to the mathematics in the Wood Stacking Problem in Assignment 2? Explain (6 marks)
