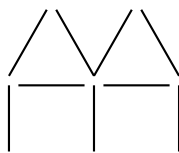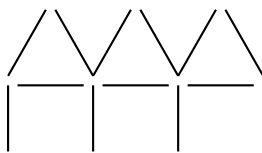# Math 1124: Homework 1
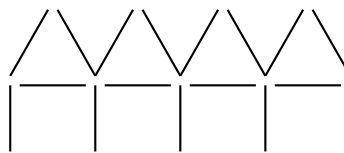# Due: Monday, August 27th

1) Below, we are given a sequence of "rowhouses" made by toothpicks:

Rowhouse 1　　　　　Rowhouse 2　　　　　Rowhouse 3

(a) How many toothpicks will it take to make rowhouse 0? How many toothpicks will it take to make rowhouse 5?

(b) Give two different algebraic expressions for the number of toothpicks in rowhouse n.

(c) Give two pictorial arguments explaining why your two different expressions are valid for **any** numbered rowhouse.

(d) Give an algebraic argument explaining why your two different expressions are equal.