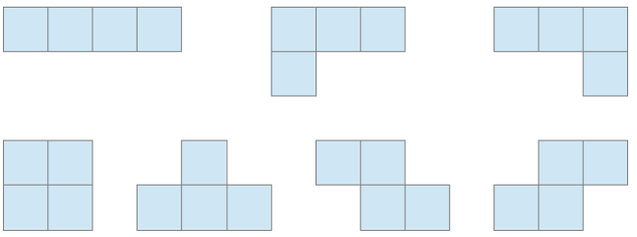
Mathematics 1100Y – Calculus I: Calculus of one variable
TRENT UNIVERSITY, Summer 2012

Assignment #5
Tetris, anyone?
Due on Wednesday, 20 June, 2012.

Consider the *tetrominoes*, the shapes that can be assembled out of four squares of equal size stuck together edge-to-edge in the same way that dominoes are assembled out of two squares at a time. There are five possible tetrominoes if one counts flipped versions as being the same, and seven if one doesn't. These are the seven shapes that occur in the game Tetris:



1. Find a way to cut up a standard 8×8 chessboard into tetrominoes, such that each square of the board is a square of a tetromino, with no gluing squares together after cutting them out permitted, and with each of the seven shapes being used at least once. *[5]*

2. Explain why a 9×9 chessboard cannot be cut up into tetrominoes in such a way. *[5]*