Homework 5

1) Problem 13C

2) Problem 13D

3) Problem 14C

4) Problem 14L

5) Let $f(n)$ be the number of non-congruent triangles with perimeter $2n$ and integer sides. Let $g(n)$ be the number of non-congruent triangles with perimeter $2n-3$ and integer sides. Let $h(n)$ be the number of partitions of n into exactly three terms. Prove that $f(n) = g(n) = h(n)$ (for $n > 2$). Obtain an expression for $h(n)$. You can leave it as a sum, you don't have to evaluate it to obtain a closed form expression (though you should in principle be able to do so).