CLASSICAL AND LINEAR ALGEBRA
MATH 1210 TUTORIAL 1

Use Mathematical Induction to prove the following

(a) $5+11+17+\cdots+(6n-1) = n(3n+2)$

(b) $9\,(n\,!) > 2^{2n}\,,$ where $n \geq 5$

(c) $1+\frac{1}{1!}+\frac{1}{2!}+\cdots+\frac{1}{n!} \leq 3-\frac{1}{n}$

(d) $2n+(2n+1)+\cdots+5n = \frac{7n(3n+1)}{2}$