CLASSICAL AND LINEAR ALGEBRA
MATH 1210 TUTORIAL 2

Q. 1 Write the following in sigma notation, (summation notation) (Do Not Solve)

$$\frac{\sqrt{3}}{2} - \frac{\sqrt{5}}{4} + \frac{\sqrt{7}}{6} - \frac{3}{8} + \cdots - \frac{5}{24}$$

Q.2 Put the expression into sigma notation and then use known sums to evaluate it (into an expression in n). Simplify if possible.

$$n^2 + (n+1)^2 + (n+2)^2 + \cdots + (2n)^2$$

Q.3 Evaluate the following

$$\sum_{n=11}^{20} (n-1)^2 (n+2)$$

Q.4 Use Mathematical Induction to prove the following

$$\sum_{j=1}^{2n} (3j-2) = n(6n-1)$$