Study Guide/Practice Test

Refer to 'Sequences and Series Classwork' WS. Be prepared to do all types of problems on the worksheet.

In addition, you will need to be able to do problems such as the following:

1. Form a sequence that has 3 arithmetic means between $\frac{1}{2}$ and $\frac{11}{6}$.

2. Form a sequence that has two geometric means between 9 and $\frac{1}{3}$.

3. Write $\sum_{k=4}^{7} 3k$ in expanded form and then find the sum.

4. Express the series $\frac{1\cdot 2}{2}+\frac{2\cdot 3}{4}+\frac{3\cdot 4}{6}+\cdots\frac{8\cdot 9}{16}$ using sigma notation.

5. Expand $(2p+1)^4$.

6. Find the fourth term in the expansion of $(2x-3y)^{14}$.

7. Use mathematical induction to prove that $1 + 5 + 9 + \ldots + 4n - 3 = n(2n - 1)$.