

Math 1050 – Sullivan Chapter 13 Lab

1. Find the 4<sup>th</sup> term of  $(2x - \frac{y}{2})^8$
  
2. Write out the following series:  $\sum_{i=3}^8 (-1)^{i-1} (i-2)^2$
  
3. Are the following sequences arithmetic, geometric, or neither?
  - a. 1, 6, 11, 16, 21, ...,  $(5n-4)$ , ...
  - b. 1, -2, 3, -4, ...,  $(-1)^{n+1}n$ , ...
  - c. 1, 1, 2, 3, 5, 8, ...,  $(a_{n-1} + a_{n-2})$ , ...
  - d. 1, -2, 4, -8, 16, ...,  $(-2)^{n-1}$ , ...
  - e. -4000, 2000, -1000, 500, ...,  $8000(-\frac{1}{2})^n$ , ...
  
4. For the sequences in #3 above, find:
  - a.  $S_{20}$
  - b.  $S_{\infty}$