**Sequences and Series: Unit Summary**

Be able to…

1. Determine if a sequence is arithmetic (linear), geometric (exponential), or neither.

2. Create an equation for the general term of an arithmetic or geometric sequence

 and use it to determine a requested term.

3. Recognize the Fibonacci Sequence and be able to determine the next term; 1, 1, 2, 3, 5, 8,….

t1 = 1, t2 = 1, tn = tn-1 + tn-2, n >2

4. Calculate the sum of geometric and arithmetic series.

5. Create and use recursive formulas to determine terms in a sequence.

6. Use the binomial theorem to expand expressions of the form (a + b)n.

7. Be able to apply all of the formulas below in various contexts:

Arithmetic Geometric

$t\_{n}=a+\left(n-1\right)d$ $t\_{n}=ar^{n-1}$

$S\_{n}=\frac{n[2a+\left(n-1\right)d]}{2}$ $S\_{n}=\frac{a(r^{n}-1)}{r-1}$

$S\_{n}=\frac{n(t\_{1}+t\_{n)}}{2}$ $S\_{n}=\frac{t\_{n+1}-t\_{1}}{r-1}$

\*\* Note: Be careful using superscripts and subscripts in the appropriate places. \*\*

Review: Complete Practice Worksheet + pg 468 #3ac, 4, 7ace, 8, 9ac, 14ac, 15acd, 18ac, 19ac, 22ac, 23cd