**Ch. 10 Sequences and Series**

**10.1 Sequences, Series, and Sigma Notation**

1) I can investigate and determine different types of sequences.

2) I can use sigma notation to represent and calculate sums of series.

**10.2 Arithmetic Sequences and Series**

 1) I can find nth terms and arithmetic means of arithmetic sequences.

 2) I can find explicit and recursive formulas for an arithmetic sequence.

 3) I can find the sums of n terms of arithmetic series.

**10.3 Geometric Sequences and Series**

 1) I can find nth terms of geometric means of geometric sequences.

 2) I can write an explicit and geometric formula when given a geometric sequence.

 3) I can find sums of n terms of geometric series and sums of infinite geometric series.

**10.4 Mathematical Induction**

 1) I can use mathematical induction to prove summation formulas and properties of divisibility involving a positive integer n.

 2) I can use extended mathematical induction.

**10.5 The Binomial Theorem**

 1) I can re-create Pascal's Triangle and know how to find additional rows.

 2) I can use Pascal’s Triangle to write binomial expansions.

 3) I can use the Binomial Theorem to write and find the coefficients of specified terms in binomial expansions.

**10.6 Functions as Infinite Series**

 1) I can use a power series to represent a rational function.

 2) I can use power series representations to approximate values of transcendental functions.