**Materials needed:** Pencil, note packet and check points (given at the beginning of each lap), Algebra and Trigonometry by Blitzer, graph paper and scratch paper if desired, NO Calculator

**Rationale**: Students will do a section on sequences including arithmetic and geometric. We will be able to find the sum of sequences and find individual terms within a sequence. We will also explore the binomial theorem and how Pascal’s triangle can be used to do binomial expansions. We will end this lap with a section on probability.

**Essential Question:** How can Pascal’s triangle be used to solve binomial expansions? How can we use probability to solve real world applications?

Open Lab:

1. Pascal’s Triangle
2. Mutually Exclusive and Independent Events
3. The Probability of Mutually Exclusive and Inclusive Events

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| **Date** | **Lesson and Objectives** | **Practice Problems** |
|  | Section 11-1 Sequences and Summation Notation Objectives * Find particular terms of a sequence form the general term.
* Use recursion formulas
* Use factorial notation
* Use summation notation.
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|  | Section 11-2 Arithmetic Sequences Objectives* Find the common difference for an arithmetic sequence
* Write terms of an arithmetic sequence
* Use the formula for the general term of an arithmetic sequence.
* Use the formula for the sum of the first $n$ terms of an arithmetic sequence.
 | Mathxlforschool.com |
|  | Section 11-3 Geometric Sequences and SeriesObjectives* Find the common ratio of a geometric sequence
* Write terms of a geometric sequence
* Use the formula for the general form of a geometric sequence
* Use the formula for the sum of the first $n $terms of a geometric sequence
* Use the formula for the sum of an infinite geometric sequence
 | Mathxlforschool.com |
|  | Quiz 1 | Review on Mathxlforschool.com |
|  | Section 11-5 The Binomial TheoremObjectives* Evaluate a binomial coefficient
* Expand a binomial raised to a power.
* Find a particular term in a binomial expansion.
 | Mathxlforschool.com |
|  | Section 11-7 ProbabilityObjectives* Compute empirical probability
* Compute theoretical probability
* Find the probability that an event will not occur
* Find the probability of one event or a second event occurring
* Find the probability of one event and a second event occurring.
 | Mathxlforschool.com |
|  | Quiz 2 |  |
|  | Review in Class |  |