

Grade 10-11

Distance Learning Module 5: Week of: April 27<sup>th</sup> – May 1st

## **Pre-Calculus Honors - Modified from [Unit E- Sequences, Series and Probability](#)**

### **Targeted Goals from Stage 1:**

**Content Knowledge:** Know and apply the Binomial Theorem for the expansion of  $(x + y)^n$  in powers of  $x$  and  $y$  for a positive integer  $n$ , where  $x$  and  $y$  are any numbers, with coefficients determined for example by Pascal's Triangle. Understand independence and conditional probability and use them to interpret data

**Vocabulary:** Sequence, Series, Explicit, Recursive, Factorial, Summation, Arithmetic, Geometric, Induction, Binomial Expansion, Pascal's Triangle, Combinations, Permutations

### **Skills:**

- expanding a binomial using the binomial theorem
- using counting principles to determine probabilities

### **Expectation:**

<b>Description of Task (s):</b>	<b>Resources and Materials:</b>	<b>Daily Checks (Return to Google Classroom or snapshots from a cell phone)</b>
Monday: Binomial expansion	Khan Academy video: Expanding binomials w/o Pascal's triangle  Khan Academy video: Binomial expansion and combinatorics  Khan Academy video: Pascal's triangle and combinatorics	Khan Academy practice: Expand binomials  Textbook p. 698, #15-21 odd, 37-41 odd, 47-53 odd, 67
Tuesday: Intro to Probability	Virtual class meeting  Khan Academy video: Probability with Venn diagrams  Khan Academy video: Addition Rule for probability	Review homework and any problems that the students are experiencing
Wednesday: Probability with counting outcomes and compound events	Khan Academy video: Die rolling probability  Khan Academy video: Probability	Khan Academy practice: Probabilities of compound events

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
	with counting outcomes  Khan Academy video: Compound events example with tree diagram	
Thursday: Probability of independent events	Khan Academy video: Compound probability of independent events  Khan Academy video: Probability without equally likely events  Khan Academy video: Independent events example: test taking	Textbook p.709, #1-17 eoo, 37, 39, 45
Friday: Check-in	Virtual class meeting	Review homework and any problems that the students are experiencing

**Week criteria for success** (attach student checklists or rubrics):

Students will be able to:

- Expand binomials using the binomial theorem and Pascal's triangle
- Determine the probability of independent events

**Supportive resources and tutorials for the week** (plans for re-teaching): Khan Academy, Precalculus with Limits by Larson and Hostetler, virtual class meetings