Combinatorics (*supplement handout*)

By the end of the unit, it is expected that you will:	☺ EXCELLENT	☺ LOOK OVER	☹ WHAT??
Apply the Fundamental Counting Principle and tree diagrams to solve problems **QUESTION:** A man has 5 shirts, 3 pairs of pants and 2 sport coats. How many different outfits can he wear?			
Demonstrate your knowledge of factorial notation. **QUESTION:** a) Evaluate 5! b) Simplify 25! ÷ 23! c) Simplify (n-2)! ÷ (n-3)!			
Determine the number of permutations of *n* elements taken *r* at a time. **QUESTION:** How many arrangements could be made of the word a) FATHER if F is the first letter? b) DAUGHTER c) MISSISSIPPI			
Determine the number of combinations of *n* elements taken *r* at a time. **QUESTION:** Consider a standard deck of 52 cards. How many different four card hands have: a) At least one black card? b) At most two clubs?			

Expand powers of a binomial expansion using the Binomial Theorem and Pascal's Triangle (restricted to exponents that are Natural numbers)

QUESTION:

Expand and simplify $(x–1/x)^4$

Workbook Assignments

Supplement page number	Mandatory Questions
7.1 pages 319 – 322	1-16, 17 (odd), 18 (odd), 19
7.2 pages 326 – 328	1, 3, 5,6, 8 – 12, 14, 15, 17, 18, 20
7.3 pages 331 – 333	1 – 11
7.4 pages 336 – 337	1 ab, 2ab, 3a, 5 – 14
7.5 pages 339	1 a–h
7.6 Chapter Review	1 –12, 14 – 20, 22 – 32, 34, 35, 40 – 43, 46