Mathletes Problem of the Week #1

As Easy as 1, 2, 3

$$1\ 2\ 3\ 4 + 2\ 1\ 3\ 4 + 3\ 1\ 2\ 4 + 4\ 1\ 2\ 3$$

a) Write down all the possible 3-digit numbers that contain the digits 1, 2, and 3. Each number needs to contain a 1, a 2, and a 3. (Hint: there are 6 possibilities.) What is the sum of these numbers?

b) Now find all the possible 4-digit numbers made with combinations of the digits 1, 2, 3, and 4. Again, each number has to contain the digit 1, the digit 2, the digit 3, and the digit 4. What is the sum of these numbers?

c) What would the sum be if you used all the digits 1, 2, 3, 4, … , up to n?

<u>Solutions & Explanations:</u> (Try one or try them all! Record your solutions and explanations below and on the back.)

Name _____   **Class** _____

(First and last name, please!)   **Solutions due: September 20th**