Mathletes Problem of the Week #11

Counting to 100

The number 10 can be written as the sum of four consecutive integers: 1 + 2 + 3 + 4 = 10. The number 100 can be written as the sum of five consecutive integers: 18 + 19 + 20 + 21 + 22 = 100.

a) Is there a way to write 100 as the sum of fewer than five consecutive integers? If so, show which integers you can use. If not, why not?
b) What is the largest number of consecutive integers you can use to make 100? Which integers should you use?
c) Now try 1000. What is the fewest number of consecutive integers needed to make 1000? Which integers should you use?
d) What is the largest number of consecutive integers you can use to make 1000? Which integers should you use?

(Source: cemc.uwaterloo.ca)

Solutions & Explanations: (Try one or try them all. Show your solutions and explain your thinking here and on the back!)

Name _____ **Class** _____

(First and last name, please!) **Solutions due: February 28th**