

Math 102
Nov. 20, 1996

Little Quiz #11

Name _____
Please Print

14. (a) Calculate the following sums

$$1 = 1$$

$$1 + 3 =$$

$$1 + 3 + 5 =$$

$$1 + 3 + 5 + 7 =$$

$$1 + 3 + 5 + 7 + 9 =$$

$$1 + 3 + 5 + 7 + 9 + 11 =$$

(b) Examine the results of part (a) to see if you can find a pattern which would enable you to find the sum

$$1 + 3 + 5 + 7 + 9 + 11 + 13 =$$

without actually adding these numbers.

(c) Express the sum in each case of part (a) in terms of how many odd numbers are to be added.

(d) Give a conjecture as to the sum of the first n odd numbers

$$1 + 3 + 5 + \dots + (2n - 1) =$$