Math 11200/20 tutorial worksheet
Thursday, September 29, 2016

# Problem 1

(a) What is $1 + 2 + \cdots + n$? This might be useful for problems 4, 5 on HW 1.

(b) What is $5 + 9 + 13 + \cdots + 105$?

Hint: There is a nice method using symmetry of the numbers. See, e.g., `http://mathcentral.uregina.ca/qq/database/qq.02.06/jo1.html`.

Remark: There is also a formula to answer this question. But it's probably better to know the method than to memorize the formula. If you forget the formula, then you are stuck. (I (Alan) don't have the formula memorized myself.)

# Problem 2

Recall the distributive property of multiplication over addition: "For any three real numbers $a, b, c$, we have $a \cdot (b + c) = a \cdot b + a \cdot c$."

Consider the "distributive property of unions over intersections" and the "distributive property of intersections over unions." Are either of these true?

(Hint: draw some pictures!)