## Math 6b/c: Homework 6

Homework #6 is <u>due November 5</u>. Please, write clearly which problem you are solving and show all steps of your solution.

**1.** Verify the associative property of OR ( $\mathbf{R}$  i.e. fill out the truth table and check if the left side of the formula is equal to the right side)

P OR (Q OR R) = (P OR Q) OR R:(left side) ?= (right side)

					(left side)	(right side)
Р	Q	R	Q or $R$	P or $Q$	$\boldsymbol{P} OR(\boldsymbol{Q} OR \boldsymbol{R})$	$(\boldsymbol{P} \text{ OR } \boldsymbol{Q}) \text{ OR } \boldsymbol{R}$

How many rows do you have in a truth table for three logical variables?

2. Verify the associative property of XOR.

**3.** \*Optional\* Solve problems from the Canadian Math Kangaroo, linked below. These will not be graded; please try to solve the questions before checking the answers.

https://kangaroo.math.ca/samples/2017/2017gr0506e.pdf