## Math 215. Homework 1

due 01/23/08
1.Construct a truth table for:
(i) (not P) or Q
(ii) not $(\mathrm{P}$ or Q$)$
(iii) (not P) and Q
2.Prove that $|x+y| \leq|x|+|y|$
3.Complete truth table for statement $a \geq b$ for $(a, b)$ given in table 1.3 p. 9
4. Give definition of:
a) isosceles triangle and a definition of non isosceles triangle
b) increasing function on an interval $[a, b]$ and non increasing function on the same interval.
c) bounded function on an interval $[a, b]$ and unbounded function on the same interval.
5. Which of the following implications are true:
a) $x^{2}-3 x+2=0$ implies $x=2$ or $x=1$.
b) $x^{2}-3 x+2=0$ implies $x=2$
c) $x^{2}-3 x+2=0$ implies $x=1$ and $x=2$.

