Assignment 4

1.Show that p->q and q'->p' are logically equivalent without using logic tables or the contraposition rule

q'' v p' implication

q v p' Double Neg

p' v q commutative

p->q implication

2. Show that (p->r) ^ (q->r) ⬄ (p v q) -> r

(p' v r) ^ (q' v r) implication x2

(p' ^ q') v r Distributive in reverse

(p v q)' v r DeM

(p v q) -> r implication

3. Come up with two more of these and se logic laws to prove

(L -> M) v P ⬄ L -> (M v P)

(L' v M) v P implication

L' v (M v P) associative

L -> (M v P) implication

H -> K, K -> M ⬄ M' -> H

H -> M hypothetical syllogism

H' v M implication

M v H' Commutative

M' -> H implication