Tutorial

1. Construct a truth table for (p<->q)<->(r<->s).
2. State the converse, contrapositive and inverse of each of the following sentences:
   a) If it snows today, I'll ski tomorrow.
   b) I come to class whenever there is going to be a quiz.
   c) A positive integer is a prime only if it has no divisors other than 1 and itself.
3. Show that -(p V (-p ^ q)) and -p ^ -q are logically equivalent.
4. Translate these into English where C(x) “x is a comedian” and F(x) “x is funny” and domain consists of all people.
   a) Vx (C(x) -> F(x)) b) Ex (C(x) ^ F(x)) where V is “for all” and E is “there exists” operators.
5. Use quantifiers to express the statement “There is a woman who has taken a flight on every airline in the world.”
6. Show that the argument form with premises p1, p2....pn and conclusion q->r is valid if if the argument form with premises p1,p2....pn,q and conclusion r is valid.