# Week #5 Exercises

1. Determine the DNF of the function, $b(p, q, r)$, whose Truth Table is the following:

| $p$ | $q$ | $r$ | $b(p, q, r)$ |
|---|---|---|---|
| F | F | F | T |
| F | F | T | F |
| F | T | F | T |
| F | T | T | T |
| T | F | F | F |
| T | F | T | F |
| T | T | F | F |
| T | T | T | F |

2. Simplify the function, $b(p, q, r)$,

1. Show by truth table:

$$p, \; p \rightarrow q \models q$$

2. Let $p \not\equiv q = \neg(p \equiv q)$
determine by Truth table whether

$$p \wedge (q \not\equiv r) = (p \wedge q) \not\equiv (p \wedge r)$$