Left Neighbor: _____   Right Neighbor: _____

Name: _____   Student ID: _____

Section TA: _____

This is a closed book quiz

1. (6 points) For the truth table below, give the compound proposition that is in Disjunctive Normal Form (Sum of Products). Label it as such. Give the compound proposition that is in Conjunctive Normal Form (Product of Sums). Label it as such.

p	q	r	f(p,q,r)
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

2. (2 points) Pick one of the two normal forms provided above, identify it, and give the dual of that compound proposition.

3. (2 points) For each set S below, give the cardinality ($|S|$) and the power set ($P(S)$),

   (a) $\{b, \{a\}\}$

   (b) $\{a, b, c\}$