

1. Select all the statements (propositions) in the following list:

- (1) Be sure to wash your dishes after eating
- (2) Will there be tacos for dinner?
- (3) There are life forms on Jupiter.
- (4) $2 + 4 = 82$

2. How many rows will be in a truth table of a wff that contains 6 variables?

- A. 12
- B. 64
- C. 32
- D. 6

3. Please Negate the following:

- (1) $A \vee B$
- (2) If the food is good, then the service is excellent.
- (3) $A \rightarrow B$

4. Construct the truth tables for the following wffs.

- (1) $(A \vee B)'$
- (2) $A' \wedge B'$
- (3) $(A \rightarrow B) \leftrightarrow (A' \vee B)'$
- (4) $A \vee B \leftrightarrow (A' \rightarrow B)$

5. List all wff in #4 that are tautologies or contradictions.**6. List all pairs of wffs in #4 that are equivalent****7. Simplify the Boolean expression in the following piece of code**

```
if( !( (x == 2) || (y < z) ) || ( (y < z) && (x == 2) ) )  
{  
  z++;  
}
```

