Sean Poston
HW 7

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1. a.) If you replace all variables with True/False, does the formula resolve to True? If yes, it's satisfiable.

b.) $O(n)$, if only one variable per clause, $O(n^2)$ if variables = clauses. We only need to prove that not all clauses contain a literal and its negation.

```
if (!clause[0].contains(n, !n)){
    break; // the formula is DNF-satisfiable at this point.
}
```

c.) take $(a \lor b) \land (a \lor c)$ in CNF form
    We can use the distributive law to say:
    $a \lor (b \land c)$ which is DNF form

d.) Because Dr. Love didn't solve for ALL possible formulae + K-SAT. Or maybe he's just in it for the love of the game.

2. decision: Given the vertices in G, are any of them connected by an edge?

NP: Check every vertex. If the edges extending from the vertices touch another vertex in G, we reject it. Otherwise, we accept it.