Woof!

Here are the rules for constructing WFFs (Well Formed Formulae, get it?). A sentence that can be constructed by applying these rules one at a time is a WFF; a sentence which can't be so constructed is not a WFF.

1. A sentence letter by itself is a WFF:
   
   \[ A \quad B \quad Z \]

2. The result of putting \( \sim \) immediately in front of a WFF is a WFF:
   
   \[ \sim A \sim B \sim\sim B \sim (A \lor B) \sim (\sim C \land D) \]

3. The result of putting \( \cdot, \lor, \supset, \text{ or } \equiv \) between two WFFs and surrounding the whole thing with parentheses is a WFF:
   
   \[ (A \supset B) (\sim \sim C \lor D) ((\sim \sim C \lor D) \supset (E \cdot (F \equiv \sim G ))) \]

4. Outside parentheses may be dropped:
   
   \[ A \supset B \sim \sim C \lor D (\sim \sim C \lor D) \supset (E \cdot (F \equiv \sim G ))) \]

Main Connective: In constructing a WFF, the connective that goes in last, which has the whole rest of the sentence in its scope, is the main connective. You can think of this connective as the one which is at the highest level in the sentence or as the one which is the "furthest out."

Hints:

1. You can't have two WFFs next to one another without a two-sided connective between them.

   \[ BAD! \quad A \quad B \quad C \sim D \quad (E \lor F) \quad G \]

2. Two-sided connectives have to have WFFs attached to both sides.

   \[ BAD! \quad \supset A \quad (B \lor C) \supset (\cdot D = E) \quad G \cdot \lor H \]

3. You can't have more than one two-sided connective at the same level.

   \[ BAD! \quad A \cdot B \lor C \quad (\sim \sim C = D) \cdot (E \supset F \cdot \sim G) \]