The following describes some characteristics of good programmers and a particular programmer called Sam:

- All programmers who took the programming language course are qualified.
- No programmer who has not taken the programming language course can win the competition.
- No one is smart unless the person wins the competition.
- If a person is not smart, then he/she could not have solved the tricky problem.
- Sam solved the tricky problem.

Derive a reasonable conclusion from the above facts.

**Hint:** Consider the word “but” to be the same as “except”.

For this question, you must use **Predicate Logic**. Make sure that you write every step of the derivation process, include the corresponding rule name that you are using in that step and write your conclusion back in English. See the class notes for examples and use them as template.