

CSCI 5582 Quiz 2

Name: _____

On my honor, as a University of Colorado at Boulder student, I have neither given nor received unauthorized assistance on this work. _____.

1. **(5 points)** An inference procedure that can produce a proof for any sentence that is entailed by a knowledge-base is called: (pick one)
 - a) Complete
 - b) Satisfiable
 - c) Tedious
 - d) Ontological

2. **(5 points)** True or False: If a sentence has been shown to be *satisfiable* with respect to a given knowledge-base then we can safely conclude that it is true given that knowledge-base.

3. **(10 points)** Given a propositional knowledge-base with the sentences $A \rightarrow B$ and $B \rightarrow C$ prove that the following sentence is true: $A \rightarrow C$
(Use the back of the page)

4. **(5 Points)** Which of the following statements is true:
 - a) Situation calculus represents an extension to ordinary first-order logic that allows us to represent change.
 - b) Situation calculus consists of a set of techniques for using first-order logic to represent change.

5. **(15 Points)** Consider the following Wumpus situation: the agent travels from 1,1 to 2,1 to 3,1 where it finally detects a Breeze.

What does the agent know about the location of any pits at this point in the game?
Use a propositional notation and show all the necessary inferences.

3,1, B	3,2	3,3
2,1	2,2	2,3
1,1	1,2	1,3