First order logics

- ∀∃ v.s. ∃∀

(c) (1 point) $\forall x \exists y$ Likes(x, y) is equivalent to $\forall y \exists x$ Likes(y, x)

A. True

B. False

Answer: A

- Unification
- Skolemization
-

(b) (1 point) The result of dropping quantifiers from $\forall x \exists y f(x, y)$ during the process of converting to Conjunctive Normal Form (CNF), gives (A is the Skolemization constant, F is the Skolemization function)

A. $f(x, F(x))$

B. $f(F(x), y)$

C. $f(x, F(y))$

D. $f(x, A)$

E. None of the others

Answer: A

First order logic

Inference

(a) (1 point) The following two sentences

$$\forall x\ g(x) \Rightarrow (\exists t\ f(t) \wedge h(x,t))$$
$$\exists t\ f(t) \wedge (\forall x\ g(x) \Rightarrow h(x,t))$$

are

A. Equivalent
B. The first implied the second
C. The second implied the first
D. None of the others

Answer: C