

CSE 311: Foundations of Computing I

QuickCheck: FOL and Inference (due Thursday, April 14)

Name:

0. Oddly Even

Let $\text{Even}(x)$ be $\exists y \ x = 2y$, and let $\text{Odd}(x)$ be $\exists y \ x = 2y + 1$. Let the domain of discourse be the set of all integers.

(a) Translate the statement

$$\forall x \forall y ((\text{Odd}(x) \wedge \text{Odd}(y)) \rightarrow \text{Even}(x + y))$$

into English.

(b) Prove the statement from part (a) using a *formal proof*.

1. Let x be an integer.
2. Let y be an integer.