Quiz 1

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This quiz does not count towards your grade. It exists to simply gauge your understanding. Treat this as though it were a portion of your midterm or final exam. In this quiz, we will walk through several misconceptions.

1 Propositional Logic

Equivalent or not?

1. $\neg(P \wedge Q) \equiv \neg P \wedge Q$
2. $\forall x \in \mathbb{Z}, \exists y \in \mathbb{Z}, \forall z \in \mathbb{Z}, P(x, y, z) \equiv \forall z \in \mathbb{Z}, \exists y \in \mathbb{Z}, \forall x \in \mathbb{Z}, P(x, y, z)$
3. $(\exists y \in \mathbb{Z}, y < 0) \wedge (\exists y \in \mathbb{Z}, y \geq 0) \equiv (\exists y \in \mathbb{Z}, (y < 0 \wedge y \geq 0))$