Introduction to Abstract Mathematics   **Name:** _____

> The majority of the credit you receive will be based on the completeness and the clarity of your responses. **Show all of your work and justify your solutions as much as possible.**
> This is a 15 minute quiz and has 2 questions, for a total of 10 points

(5 points)   1. Consider the following open sentences over the domain $\mathbb{R}$. $P(x) : x$ is an integer. $Q(x) : \sqrt[3]{x}$ is an integer. Give an example of a single value for x where $P(x) \Rightarrow Q(x)$ is true and another example where $P(x) \Rightarrow Q(x)$ is false.

(5 points)   2. Let P and Q be statements. Make a truth table to determine if $\sim (P \Rightarrow Q) \equiv P \wedge (\sim Q)$.