

# Introductory Logic: Worksheet 6

November 5, 2025

## 1 Problem 1

Translate the following sentences:

1. The smallest prime number is even.
2. For each natural number, there is a unique next-greater natural number.

## 2 Problem 2

Prove the following:  $Fa \vdash \forall y((a = y) \rightarrow Fy)$ .

## 3 Problem 3

Show that if  $a \subseteq b$  and  $b \subseteq c$ , then  $a \subseteq c$ .