Introductory Logic: Worksheet 1

September 10, 2025

1 Problem 1

The following proof has 4 errors. What are they?

The proof is trying to show that $R, \neg P \to \neg Q, P \to \neg R \vdash \neg Q \wedge \neg P$

1.	$\neg P \to \neg Q$	A
2.	$P \to \neg R$	A
3.	R	A
4.	$\neg P$	2, 3 MP
5.	$\neg P \vee \neg Q$	$\vee$ I
6.	$\neg Q$	$\vee$ E
7.	$\neg Q \wedge \neg P$	$\wedge$ I

2 Problem 2

Prove what the proof in problem 1 is trying to prove.

3 Problem 3

Explain in simple and intuitive terms what the difference between a valid and sound argument is.