

MATH 3345 HOMEWORK 3

**Problem 1.** Section 3 Exercise 14 from Falkner

**Problem 2.**

(a) Section 4 Exercise 5 from Falkner

(b) Section 4 Exercise 6 from Falkner

**Problem 3.** Section 4 Exercise 8 from Falkner

**Problem 4.** Section 4 Exercise 10 from Falkner

**Problem 5.** Section 4 Exercise 13 from Falkner

**Optional problem 1.** Let  $P, Q, R$  be statements. Show that the statements  $P \wedge Q \Rightarrow R$  and  $P \wedge \neg R \Rightarrow \neg Q$  are logically equivalent. Do this in 2 ways: using truth tables and using only words.