Discrete Structures

9/28/23 Homework 4 Joseph Schmitz

2.3.13

p	q	p → q	~q	~p
T	T	T	F	F
T	F	F	T	F
F	T	T	F	T
F	F	T	T	T

← This row shows that where the premises are true, the conclusion is true. The argument is valid.

2.3.31 $P \wedge Q$

$\therefore Q$ valid: specialization

2.5.6 10110010000

$1424 = 1024 + 256 + 128 + 16 = 10110010000$

2.5.12 91

$1011011 = 64 + 16 + 8 + 2 + 1 = 91$

2.5.30 -70

flip bits add 1

$10111010 \rightarrow 01000101 \rightarrow 01000110 = 64 + 4 + 2 = 70$