

M260

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Exam Preparation for Chapter One

pages 15-16: 7 17-32 39-40 43-47

pages 27-28: 2-4 6-12 14 16 26 34 36

write negation, contrapositive, converse, inverse

pages 39-41: 1 3-5 6 9 12-20 22-26 28 29 40-41

1.

$\sim p$ is called the _____ of p .

$p \wedge q$ is called the _____ of p and q .

$p \vee q$ is called the _____ of p and q .

Finish the “laws”. (p , q , and r are statement variables; t is a tautology; and c is a contradiction)

$p \wedge q \equiv$ _____

$p \vee q \equiv$ _____

$(p \wedge q) \wedge r \equiv$ _____

$(p \vee q) \vee r \equiv$ _____

$p \wedge (q \vee r) \equiv$ _____

$p \vee (q \wedge r) \equiv$ _____

$p \wedge t \equiv$ _____

$p \vee c \equiv$ _____

$p \vee \sim p \equiv$ _____

$p \wedge \sim p \equiv$ _____

$\sim(\sim p) \equiv$ _____

$p \wedge p \equiv$ _____

$p \vee p \equiv$ _____

$\sim(p \wedge q) \equiv$ _____

$\sim(p \vee q) \equiv$ _____

$p \vee t \equiv$ _____

$p \wedge c \equiv$ _____

$p \vee (p \wedge q) \equiv$ _____

$p \wedge (p \vee q) \equiv$ _____

$\sim t \equiv$ _____

$\sim c \equiv$ _____

2. Give the rules of inference in symbolic form using p , q , and r for statement variables:

Modus Ponens:

Modus Tollens:

Generalization:

Specialization:

Elimination:

Transitivity:

Division into Cases:

Rule of Contradiction: