

## LAB 1

1.2.1 b) 5 is an odd number or 3 is a negative number

$$\neg T \vee F = F$$

do not plug in a value for the T

c) 8 is an odd number or 4 is not an odd number

$$F \vee \neg(F) = (F \vee T) = T$$

plug in the value since a value for the T

1.2.2 d) It is raining and it is windy or cold

$$(r \wedge p) \vee q \quad p \wedge (p \vee q)$$

$$(M \wedge V) \vee C \quad (C \wedge V) \vee C$$

e) It is raining and windy or it is cold

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

$$\begin{aligned} 1.2.3 \quad c) \quad & p \wedge (q \vee s) \\ & T \wedge (T \vee F) \\ & = T \end{aligned}$$

$$\boxed{p = T \quad q = T \quad s = F}$$

$$\begin{aligned} d) \quad & p \wedge \neg(q \vee s) \\ & T \wedge \neg(T \vee F) \\ & T \wedge F \\ & F \end{aligned}$$

$$\begin{aligned} e) \quad & \neg(q \wedge p \wedge \neg s) \\ & \neg(T \wedge T \wedge \neg(F)) \\ & \neg(T) \\ & F \end{aligned}$$

$$1.2.5 \quad d) \neg p \vee \neg q$$

I am not going to a movie tonight or  
I am not going to a party tonight

$$c) \neg (p \vee q) = (\neg p) \wedge (\neg q)$$

I am not going to a movie tonight or going  
to a party tonight

$$1.2.7 \quad c) B \vee (D \wedge M)$$

$$\begin{aligned} (2 \vee 3) \wedge 4 &= 8.5.1 \\ (7 \vee 8) \wedge 9 &= T \\ T &= \end{aligned}$$

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