Math 099 - Quiz 5

October 8, 2018

Name _____key_____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This assignment is worth 5 points.

p is T
q is F

1. (5 points) Suppose p is true statement and q is a false statement. Determine the truth value of each compound statement. Explain or show work.

   (a) $\sim(p \vee q)$ = NOT $(T$ OR $F)$ = NOT T = $\boxed{F}$

   (b) $p \wedge \sim q$ = T AND NOT F = T AND T = $\boxed{T}$

   (c) $\sim q \vee \sim p$ = NOT F OR NOT T = T OR F = $\boxed{T}$

   (d) $q \wedge \sim q$ = F AND NOT F = F AND T = $\boxed{F}$

   (e) $\sim(\sim(\sim p))$ NOT (NOT (NOT T))

   = NOT (NOT F) = NOT (T) = $\boxed{F}$

2. (5 points) Suppose p is the statement "Today is Monday" and q is the statement "I get paid today."

   (a) Write the statement in words: $\sim p \wedge q$ TODAY IS NOT MONDAY, AND I GET PAID TODAY.

   (b) Write the statement in words: $\sim p \vee \sim q$

   TODAY IS NOT MONDAY, OR I DO NOT GET PAID TODAY.

   (c) Write the statement in symbolic form: "If Today is Monday, then I get paid today."

   $p \rightarrow q$