Instructions: Show all work. Answers without work can only be graded all or nothing. Partial credit is available only when work is shown.

1. If p is the statement "Manuela like oranges", and q is the statement "The postcard is green". Translate the logical notation into English sentences.
   a. $p \wedge q$

   b. $p \vee \sim q$

   c. $\sim p \rightarrow q$

2. Use a truth table to evaluate the truth value of the compound statement $(\sim p \vee q) \rightarrow r$.

p	q	r			
T	T	T			
T	T	F			
T	F	T			
T	F	F			
F	T	T			
F	T	F			
F	F	T			
F	F	F			

3. Use the back of the page to show that $p \vee \sim p$ is a tautology (it is always true) using a truth table.