Geometry #9: Logical Statements
Booklet

Let p represent "It is cold" and let q represent "It is snowing." Which expression can be used to represent "It is cold and it is not snowing"?
(1) $\sim p \wedge q$ (2) $p \wedge \sim q$ (3) $p \vee \sim q$ (4) $\sim p \vee q$

9. Each part that follows consists of a set of three sentences. The truth values of the first two sentences are given. Determine the truth value of the third sentence.

a. It rains or it is cold. It is cold. It rains.	TRUE FALSE ?
b. The month is June and it is *not* warm. The month is June. It is warm.	FALSE TRUE ?
c. I will study or I will *not* pass the test. I will not study. I will pass the test.	TRUE ? TRUE
d. I will *not* work at camp this summer or I will attend summer school. I will work at camp this summer. I will not attend summer school.	FALSE TRUE ?
e. The month is *not* January and it is *not* snowing. The month is January. It is not snowing.	? TRUE TRUE

6. If $p \wedge \sim q$ is true, then which is true?
(1) p and q are both true.
(2) p is false and q is true.
(3) p is true and q is false.
(4) p and q are both false.

B. *Show or explain how you arrived at your answer.*

7. Let x represent "Mr. Ladd teaches mathematics" and let y represent "Mr. Ladd is the football coach." Write in symbolic form: "Mr. Ladd does not teach mathematics and Mr. Ladd is the football coach."