Name _____ Date _____

LESSON 2.3
Practice C
For use with pages 86-93

Write the statement that follows from the given statements. Indicate whether the
***Law of Detachment* or the *Law of Syllogism* is used.**

1. If Dr. Klein is well-rested for a surgical procedure, then she operates with precision. Dr. Klein got plenty of sleep to prepare for today's operation.

2. If we don't make any stops, then we'll make it to the stadium by 12:30 P.M. If we make it the stadium by that time, then we should be in time to see the kickoff.

3. In a recreational basketball league, if a player receives two technical fouls in one game, then the player is ejected from the game. If a player is ejected from a game, then the player has to sit out the following game.

4. If the accused suspect has a valid alibi, then the police will not hold him. The crime occurred at 9:32 A.M. The suspect's place of business confirms that he was working with 22 other people from 7:00 A.M. to 4:00 P.M. on the same day.

5. Even when firefighters follow all relevant safety procedures, if they enter a burning building, then there is significant danger involved. A group of firefighters enters a burning warehouse to look for people.

6. The store manager knows that if tomorrow's sale is not advertised in the newspaper, then the store will lose money. If the newspaper does not receive the order for the advertisement soon enough, then they will not be able to put it in tomorrow's newspaper.

Use deductive reasoning along with one of the laws of logic to write the statement
that follows from the given statements. Indicate whether the *Law of Detachment* or
the *Law of Syllogism* used.

7. If a company's taxable income is reduced by $10,000, then it will go into a lower tax bracket. If the company contributes money to a certain charity, then it will reduce its taxable income by 50% of the amount contributed.

8. If you park a car on a hill, then you should set the parking brake. You park the car facing down a steep grade on a busy street.

9. If you take the absolute value of a positive number, then the value of the result is the number. You take the absolute value of a perfect square.

10. If the ice on a lake becomes brittle, it may not be safe to walk on the ice for up to 24 hours. If there is a large, rapid decrease in air temperature, then the lake ice becomes brittle.

11. If an object has a greater volume than an equivalent mass of water, then the object will float in water. A ball has three times the volume of an equivalent mass of water.

12. If a car is moving at a speed of 50 miles per hour, then it takes 175 feet to stop the car on average. The car is traveling at 50 miles per hour when another vehicle pulls directly into its path.

Decide whether *inductive* or *deductive* reasoning is used to reach the conclusion. *Explain your* reasoning.

13. You diet for 3 weeks and lose 3 pounds. You conclude that you can lose 20 more pounds in the next 20 weeks.

14. You use the rise of 8.1 and the run of 2.7 between two points on a line in the coordinate plane to conclude that the slope of the line is 3.

15. It is the last day of the month and you want to buy a new jacket. Because you always run out of money by the end of the month, you conclude that there is not enough money in your checking account for the jacket.

16. After running several trials to observe the temperatures at which distilled water and saltwater boil, you conclude that adding salt to water will raise the boiling temperature of the water.