Scientific Method Practice

In the scenarios below, identify the following components of an experiment.

1. Independent variable
2. Dependent variable
3. Control
4. Repeated trials
5. Constants

Use the scenario below to write a title and a hypothesis using the following formats:

6. Title: The Effect of the (changes in the independent variable) on the (dependent variable)
7. Hypothesis: If the (independent variable – describe how it will be changed), then the (dependent variable – describe the effect).

Scenario 1 Floor Wax
A shopping mall wanted to determine whether the more expensive "Tough Stuff" floor wax was better then the cheaper "Steel Seal" floor wax at protecting its floor tiles against scratches. One liter of each brand of floor wax was applied to each of 5 test sections of the main hall of the mall. The test sections were all the same size and were covered with the same kind of tiles. Five (5) other test sections received no wax. After 3 weeks, the number of scratches in each of the test sections was counted.

Scenario 2 Brands of Car Wax
Jack wanted to test which brand of car wax was most effective. He tested four brands of wax. He cleaned the hood of his car and removed the old wax. He measured four equal sections on the hood of the car. Each of the waxes was used to cover a section. An equal amount of wax, the same type of rag, and equal buffing were used. Five drops of water were placed on each square, and the diameter of each drop was measured (cm) (quantitative). Jack could have used a qualitative dependent variable by developing a