In an August 21, 2001 *Lincoln Journal-Star* article entitled "Forcing Fuel Efficiency on Consumers Doesn't Work", author Jerry Taylor reports the following assertions:

1. "Economists have discovered over the long run, a 20 percent increase in gasoline costs, for instance, will result in a 20 percent decline in gasoline consumption.”
2. “A recent report from the National Academy of Sciences, for instance, notes that the fuel efficiency of a large pickup could be increased from 18.1 miles per gallon to 26.7 miles per gallon at a cost to automakers of $1,466."
3. "It would take the typical driver 14 years before he would save enough in gasoline costs to pay for the mandated up-front expenditure [$1,466]."
4. "A similar calculation for getting a large SUV up to 25.1 miles per gallon leads to a $1,348 expenditure and, similarly, more than a decade before buyers would break even."
5. "You could take that $1,466, for instance, put it in a checking account yielding 5 percent interest, and make a heck of a lot more money than you could by investing it in automobile fuel efficiency."

After reading the article, answer the following questions in each set:

1. Question Set 1:
2. Which of the assertions can be checked without considerable research?
3. What assumptions would need to be made in checking assertion III?
4. What assumptions would need to be made in checking assertion IV?
5. What assumptions would need to be made in checking assertion V?
6. Question Set 2:
7. Is the assertion III above reasonable? Explain why or why not.
8. What would be the effect of increased costs of gasoline on assertion III?
9. What would be the effect of increased miles driven per year on assertion III?
10. Assume the cost of gasoline in 2001 was $1.40 per gallon and that it would take 14 years for the "typical driver" to recover the $1466 through savings in gasoline costs. How many miles per year would the "typical driver" drive?
11. Question Set 3:
12. Is the assertion IV above reasonable? Why or why not?
13. How would the savings be affected if the current MPG of large SUVs were lower than 18.1 MPG?
14. Question Set 4:
15. Is assertion V above reasonable? Why or why not?
16. If the $1466 is placed in one account at 5% interest and the annual savings from gasoline are deposited in a second account earning 5% interest, compounded annually, how do the amounts in the two accounts compare?