Mortimer's Accident

Name: _____

Date: _____

Period:_____

Mortimer is stopped at a red light. He drives a blue 1955 Studebaker, which was built in the days before headrests. Unfortunately for Mort, the driver behind him has not had his morning cup of coffee and is not very alert. The driver wakes up just before he reaches the Studebaker and slams on his breaks, but it is too late. He hits the back of Mort's car at about 10 mph.

1) Describe the motion of Mort's car as a result of the collision

2) Describe the motion of the other driver's car as a result of the collision

3) Describe the motion of Mort's head as a result of the collision from the reference point of:

a) a passenger inside Mort's car

b) an observer standing on the street near Mort's car

4) Do Mort's car and head have the motions in the same or opposite directions after the crash?

5) Describe, in your own words, the physical principals that cause the motion of Mort's car and Mort's head (**why** do they move the way they do?)

6) Explain why headrests are now required in all new cars.