Two cars are traveling along perpendicular routes. The first car has mass $M_1$ and speed $v_1$ and the second car has mass $M_2$ and speed $v_2$. The cars collide at an intersection, and lock together and go sliding through an empty parking lot a distance $S$ until they come to rest.

What is the coefficient of kinetic friction between the cars and the parking lot?

Answer: ____________________________