

## Quiz 2

A 1400 kg car is driving at 20 m/s when the driver notices a stop sign 40 meters away. The driver hits the brakes, which apply a constant force of 8000 N.

1. On the diagram below: draw arrows on the car indicating the direction of its instantaneous velocity and acceleration at some point after it started braking but before it has come to rest.



2. Is the car able to stop before reaching the stop sign?  
*Show your work, do not just answer “yes” or “no”. You should calculate the exact distance the car travels before coming to rest.*