5 A racing car of mass 500 kg, including driver but not fuel, decelerates from a speed of 50 m s^{-1} to 30 m s^{-1} when approaching a bend.

The brakes exert a fixed retarding force of 7000 N. The time for the car to decelerate when it is almost out of fuel is t_1. The time for it to decelerate when it has a full load of 130 kg of fuel is t_2.

What is the difference $(t_2 - t_1)$ in the times?

A 0.37 s **B** 0.56 s **C** 0.93 s **D** 1.43 s

6 An object of mass M travelling to the right with velocity $2v$ collides with another object of mass $2M$