

Candidate Index Number: _____

Physics, Case 2

Topic: The Mighty Hercules

Marks: 60

A fast car travelling at 100 mph collides with a fly travelling at 5 mph exactly opposing the car. The fly hits the window pane of the locomotive, gets stuck (RIP), and continues to move with the car - of course at 100 mph, the speed of the car.

As the fly reversed its direction of movement, there must have been a point where it had a speed of zero, just for an instant. If the fly had the speed of zero, then just for that instant the car's speed must have also been zero.

Explain how this strong fly could stop (even for a short instant) a car travelling at 100 mph. **(Max: 500 words)**