Problem 2

A plane with a mass of 80,000 kg is traveling a velocity of 200 meters per second when the engines cut out. 20 seconds later, it's noticed that the velocity has dropped to 190 m/s. Assuming the plane is not gaining or losing altitude, what is the average drag force on the plane?

$$(F)(t) = m V_f - m V_i$$

$$(F)(20 s) = (80000 \text{ kg})(190 \text{ m/s}) - (80,000 \text{ kg})(200 \text{ m/s})$$

$$F = 40,000 N = \boxed{40 \text{ hN}}$$