

Question 22834

Linear momentum is a mass of body, multiplied by velocity: $\vec{p} = m\vec{v}$, $p = |\vec{p}| = m|v| = mv$.
In order for car to have the same momentum, $p_1 = p_2$, where p_1 is the momentum of the car,
and p_2 is the momentum of the truck. Hence, $m_1 v_1 = m_2 v_2 \Rightarrow v_1 = \frac{m_2}{m_1} v_2 \approx 60,62 \text{ m/s}$.