**Answer on Question #48076, Physics, Other**

*A car's airbag will activate and increase the stopping time of a passenger from 1.0 x 10-2s to 3.0 x 10-1s. If the person in the car has a mass of 70.0kg and the car is travelling at 100km/h (approximately 28 m/s), determine the magnitude of force that the person will exert on the airbag.*

Momentum change of a body with airbag:

$$mv = F_{airbag} t_2 \rightarrow F_{airbag} = \frac{mv}{t_2}$$

$$F_{airbag} = \frac{70.0kg \cdot 28\frac{m}{s}}{3.0 \cdot 10^{-1}s} = 6.5 \cdot 10^3 N$$

**Answer:** $F_{airbag} = 6.5 \cdot 10^3 N$