

**PHYSICS****NEWTON'S LAWS AND MOTION PROBLEMS**

Ex: A car travelling at 100 km/h hits a brick wall. The driver who has a mass of (80 kg) comes to rest in 0.2 seconds after impact.

- a) What is the average force that acts on the driver?

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Ex: You are a (80 kg) skydiver jumping off a 553 m CN Tower.

A) What force do you experience if you hit concrete and stop in 0.01s?

b) Convert your force to a mass.

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Ex: A 50 kg object is dragged across the floor by an applied force of 300 N. The coefficient of friction is 0.2. How far does the object travel in 3 seconds if it starts from rest?

**PHYSICS****NEWTON'S LAWS AND MOTION PROBLEMS****Challenge Question**

A 450kg snowmobile is pulling a 25 kg toboggan with a 50 kg child on it with a 10 m long rope. The coefficient of friction of the snow is 0.1. If the snowmobile's engine provides an applied force of 500N, what is the tension on the rope?