**Name:**

**Date:**

**School:**

**Facilitator:**

6.06 Momentum Questions

**After you have read the lesson and watched the Momentum video used in Task 1, answer the following 12 questions.**

# ****Part 1****

1. Define momentum. List the equation and unit.

1. Two cars, one twice as heavy as the other, move down a hill at the same speed. Compared to that of the lighter car, the momentum of the heavier car is       as much.
2. For a constant force, if the duration of impact upon an object is doubled:
   1. How is the impulse affected?

* 1. How is the resulting change in momentum affected?

1. If the time of impact in a collision is extended by four times, by how much is the force of impact altered?

1. Define impulse. Give its equation and unit(s).

# Part 2

1. Why is it important to “follow through” when trying to hit a home run?

1. Why does it hurt more when you fall on a concrete floor than on a wooden floor?

1. Why are car dashboards, steering wheels, and boxing gloves padded?

1. How can a karate chop” break a board?

1. What is the momentum of a golf ball with a mass of 62 g moving at 73 m/s?

1. If, in the problem above, the impact between the ball and club lasted for 2.0 x 10-3 s:
   1. What force acted on the ball?

* 1. What force acted on the club?

1. For how long a time must a tow truck pull with a force of 550 N on a stalled 1200 kg car to give it a forward velocity of 2.0 m/s?