# Corona Week 5 Impulse

2. Impulse - Change in Momentum

1. In this crash test, the 5,000 kg truck is initially moving at ___ m/s, to the right and is brought to a halt.
    a) Calculate the impulse delivered to the car.
    b) If the collision took 0.75 seconds, calculate the average force on the car.
    c) What impulse was delivered to the crash barrier?
   d) What was the average force on the crash barrier?
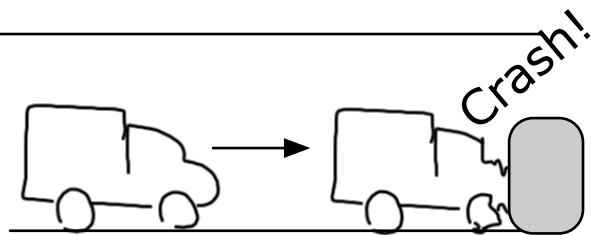
Choose a velocity between 10 m/s and 40 m/s where both digits are odd.

2. A toy catapult exerts an average force of 10 N on a 0.3 kg ball of clay for ___ s. If the clay starts from rest, what will its launch velocity be?
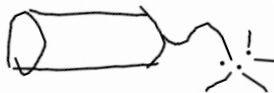
Choose a time less than one second with two non-zero decimal places.

3. Car brakes apply a constant force of _____ N to the left, bringing the velocity of the car from 20 m/s to 5 m/s in 3 seconds. Calculate the mass of the car.
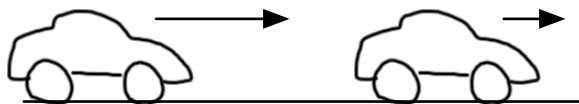
Choose a force in the thousands that has all non-zero digits.

5. The firecracker explodes into two pieces. The 0.1 kg right hand piece is moving at 30 m/s to the right. What is the velocity of the 0.2 kg left hand piece?

Before   After