Physics 11 Unit 4 Momentum Year End Review Sheet

Name: _____

Show all your work, even write yourself some notes on your work, little mental reminders of what you are doing.

1. Calculate the momentum of a 1800 kg car travelling at 28 m/s.

2. Calculate the momentum of a 2100 kg car travelling at 120 km/hr.

3. A 2 kg ball is initially at rest, the ball is struck and has a final velocity of 28 m/s. Find the impulse imparted on the ball. (impulse = change in momentum)

4. A ball is travelling at 29 m/s east and comes to a complete stop. Calculate the change in velocity.

5. A ball is travelling at 15 m/s east, the ball is struck and has a final velocity of 41 m/s east. Calculate the change in velocity.

6. A ball is travelling at 18 m/s east, the ball is struck and has a final velocity of 38 m/s west. Find the change in velocity.

7. A 1200 kg car traveling at 24 m/s hits a 2000 kg hippo traveling 20 m/s head on. Assuming the car and the hippo “stick”, what is the final velocity of the carnage?

8. A 1800 kg car travelling 120 km/hr east hits a 2200 kg car travelling west at 130 km/hr. After the collision the car is travelling west at 15 km/hr. Find the final velocity of the truck.

9. A baseball player hits a stationary ball. The collision with the ball lasts 0.08 seconds. The 0.7 kg ball has a final velocity of 26 m/s. What was the average force during the collision?

10. A baseball player hits a 0.6 kg ball that was pitched at 90 km/hr. The collision lasts 0.07 of a second. The final velocity of the ball is 140 km/hr back at the pitcher. What is the average collision force?