Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_

**Ch 6.1 Momentum & Impulse -** Page 203 - Practice Problems C – Stopping Distance

1. How long would the car in Sample problem C take to come to a stop from its initial velocity of 20.0 m/s to the west? How far would the car move before stopping? Assume a constant acceleration. Mass = 2240 kg, vf = 5.00 m/s to the west, F = 8410 N to the east, ∆t = 4.00 seconds, ∆x = 50 m to the west
2. A 2500 kg car traveling to the north is slowed down uniformly from an initial velocity of 20.0 m/s by a 6250 N braking force acting opposite the car’s motion. Use the impulse-momentum theorem to answer the following questions:
3. What is the car’s velocity after 2.50 s?
4. How far does the car move during 2.5 s?
5. How long does it take the car to come to a complete stop?
6. Assume the car in sample problem C has a mass of 3250 kg
7. How much force would be required to cause the same acceleration as in item #1? Use the impulse-momentum theorem.
8. How far would the car move before stopping (use the force found in a)?