Unit 8 Problems I

1. **If a rock had a mass of 32 Kg and was on a hill that was 5 m tall, what would it’s potential energy be?**
2. **If a 30 Kg car was traveling 22 m/s, what is the car’s kinetic energy?**
3. **If a rock had the potential energy of 350 J at a height of 15 m, what is the rock’s mass?**
4. **If a car traveling 6.5 m/s had a kinetic energy of 150 J what is the car’s mass?**
5. **If you traveled 150 miles in 2.8 hours, what was your average speed?**
6. **If a car with an acceleration of – 5.6 m/s2  had an initial velocity of 33.9 m/s and the car came to a stop, what was the time it took the car to come to a stop?**
7. If an object was moving 5 m/s and had a mass of25 Kg, what is the momentum?

**2.) If an object had a momentum of 152.66 Kg m/s and a mass of 45.69 Kg, what is it’s velocity?**

**3.) If an object had a velocity of .4589 m/s and a momentum of 26.54 Kg**

**m/s, what is the mass?**

**4.) If an object exerted a force of 4 N for a time of .2023155 s, what is the impulse?**

**5.) If an object had an impulse of 8.69 N s and a mass of 5.87 Kg, what is the time of impact?**

1. **If a car traveling 20 .01259mi/hr East hit another head on that was traveling 30.025868 mi/hr West, what is the velocity of the car after the collision?**
2. **If a person running 7.1115 mi/hr North pushed a person walking 3.0 mi/ hr North, what is the velocity after the person is pushed?**
3. **If a car traveling 7.18 mi/hr North collided with another traveling 50 mi/hr South, what is the velocity after the collision?**
4. **If a car traveling 130 mi/hr East collides with a car traveling 42 mi/hr East what is the velocity after the collision?**
5. **If a car traveling 125 mi/hr East collided with another traveling 25 mi/hr North, what would the velocity of the car be after the collision?**
6. **2.) If a car traveling 5.45 mi/hr West collided with another traveling 85 mi/hr South, what would the velocity of the car be after the collision?**
7. **3.) If a car traveling 25.5 mi/hr West collided with another traveling 10 mi/hr South, what would the velocity of the car be after the collision?**
8. **4.) If a car traveling 195 mi/hr West collided with another traveling 35 mi/hr South, what would the velocity of the car be after the collision?**