Unit 8 Problems II

1. **If a rock had a mass of 24 Kg and was on a hill that was 10 m tall, what would it’s potential energy be?**
2. **If a 67 Kg car was traveling 71 m/s, what is the car’s kinetic energy?**
3. **If a rock had the potential energy of 50 J at a height of 20 m, what is the rock’s mass?**
4. **If a car traveling 1.5 m/s had a kinetic energy of 150 J what is the car’s mass?**
5. **If you traveled 82 miles in 3.3 hours, what was your average speed?**

**2.) If an object had a momentum of 123 Kg m/s and a mass of 321 Kg, what is it’s velocity?**

**3.) If an object had a velocity of 24.4589 m/s and a momentum of 36.54 Kg**

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

**4.) If an object exerted a force of 3 N for a time of 75.2023155 s, what is the impulse?**

**5.) If an object had an impulse of 18.69 N s and a mass of 5.87 Kg, what is the time of impact?**

1. **If a car traveling 201 .01259mi/hr East hit another head on that was traveling 301.025868 mi/hr West, what is the velocity of the car after the collision?**
2. **If a person running 17.1115 mi/hr North pushed a person walking 3.0 mi/ hr North, what is the velocity after the person is pushed?**
3. **If a plane traveling 17.18 mi/hr North collided with another traveling 510 mi/hr South, what is the velocity after the collision?**
4. **If a car traveling 1130 m/s East collides with a car traveling 412 m/s East what is the velocity after the collision?**
5. **If a car traveling 1125 mi/hr East collided with another traveling 215 mi/hr North, what would the velocity of the car be after the collision?**
6. **2.) If a car traveling 51.45 mi/hr West collided with another traveling 815 mi/hr South, what would the velocity of the car be after the collision?**