***Math* 2414- *Calculus* II *Homework Sec* 1.1 Name:**

1. The velocity of an object moving along a line is given by . What is the displacement of the object after 1.5 *sec*?
2. A projectile is launched vertically from the ground at , and its velocity in flight (in *m/s*) is given by . Find the position, displacement, and distance traveled after *t* seconds, for 
3. At , a car begins decelerating from a velocity of 80 *ft/s* at a constant rate of . Find its position function assuming .
4. The acceleration of an object moving along a line is given by . The initial velocity and position are  and 
5. Find the velocity and position for 
6. What are the minimum and maximum values of *s*?
7. Find the average velocity and average position over the interval 
8. A small plane in flight consumes fuel at a rate (in *gal/min*) given by



1. Find a function *R* that gives the total fuel consumed, for 
2. Find a function *R* that gives the total fuel consumed, for 
3. If the fuel tank capacity is 150 *gal*, when does the fuel run out?
4. Water flows out of a tank at a rate  given by . If the tank initially holds 75  of water, when will the tank be empty?
5. A projectile is fired upward, and its velocity in *m/s* is given by .
6. Graph the velocity function, for .
7. When does the velocity reach 50 *m/s*?
8. Find and graph the position function for the projectile for , assuming .
9. Given unlimited time, can the projectile travel 2500 *m*? If so, at what time does the distance traveled equal 2500 *m*?