Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per. \_\_\_

**Matter in Motion**

Directions: Answer the following problems using the appropriate equations. SHOW YOUR WORK!

1. An athlete swims a distance fro one end of a 50m pool to the other end in a time of 25s. What is the athlete’s average speed?
2. At what speed did a plane fly if it traveled 1760 meters in 8 seconds?
3. A car travels 240 km in 3hr. What is the speed of the car in that time?
4. Kira jogs to a store 72 m away in a time of 36s. What is Kira’s average speed?
5. The speed of a cruise ship is 50 km/h. How far will the ship travel in 14 hr?
6. What is the combined velocity if you are walking west at 2 km/h on a bus that is traveling west at 17 km/h?
7. What is the combined velocity if you are walking east at 2 km/h on a bus that is traveling west at 17 km/h?
8. What is the average acceleration of a subway train that speeds up from 9.6 m/s to 12 m/s in 0.8s on a straight section of track?
9. What is the average acceleration of a car that slows down from 8.0 m/s to 6.5 m/s in 3s on a straight section of the highway?

1. A wolf is chasing a rabbit. Graph the wolf’s motion using the following data:

15 m/s at 0s

10 m/s at 1s

5 m/s at 2s

2.5 m/s at 3s

1 m/s at 4s

0 m/s at 5s

What does the graph represent? What does the graph tell you?

1. On the graph, graph the following data about a traveling air balloon:

0 m in 0s

3 m in 1s

7 m in 2s

10 m in 3s

12 m in 4s

15 m in 5s

What does the graph represent? What does the graph tell you?