Linear Motion Notes 9/5/14

**Warm up:**

1- What does magnitude mean?



2- What is the difference between distance and displacement?



3- John walks 4 meters north, 10 meters south, then 3 meters north.

What is his total distance traveled?



What is his displacement?



**Speed and Velocity**

Speed-



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Formula for speed:



“s” stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



“d” stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



“t” stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Velocity-



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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Formula for velocity:



“v” stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



“d” stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



“t” stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Examples:

1.) A car moves 100 meters in 8 seconds. What is the car’s speed?



Formula:



Plug in numbers:



Answer (with units):



2.) I ran 3 miles in 0.52 hours. What is my speed?



Formula:



Plug in numbers:



Answer (with units):



What is my speed in meters/second? (1 mile = 1609 meters)



3.) A runner has a speed of 8.0 m/s. He spent 25 seconds running. How far did he run?



Formula:



Plug in numbers:



Answer:



4.) A bullet is shot out of a rifle with a speed of 720 m/s. In how many seconds would it take the bullet to strike a target 3240 meters away?



Formula:



Plug in numbers:



Answer: