Linear Motion Notes 8/11

**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-

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

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-

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

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

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: