**Introduction to Linear Motion Notes 8/10**

Mechanics- the study of the motion or objects. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Kinematics- the science of describing the motion of objects using words, diagrams, numbers, graphs and equations.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Scalars- A quantity with magnitude only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Magnitude: how much (#)

 Example: \_\_\_50 mph\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vectors- a graphical representation of a physical concept that has magnitude and direction\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Example: \_\_\_\_\_50 mph north\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Examples of directions used:

 a. Cardinal directions (north, south, east, west)

 b. positive (+) , negative (-)

 c. left, right

 d. up, down

**Distance vs Displacement**

Distance- total length traveled

 Example: Joe walked 4 m north, 8 m south, then 2 meters north

 Joe walked a total of 14 m.

Displacement- how far an object is from where it started.

 Example: Joe walked 12 m north and 2 meters south.

 Joe’s displacement is 10 m.