

Quiz #1 Physics 220
Spring 2014

Name: _____

For all of the following questions show all your work and use the appropriate number of significant figures.

1. Convert 45 m/s to miles per hour.

2. What are the SI units for Mass: _____, Distance: _____ and time: _____

3. A lady bug travels 1.25 meters to the East and 1.70 meters to the South. Find the magnitude and direction of the ladybug's displacement vector. (Include a clearly labeled diagram)

4. Draw a motion diagram for the following scenarios (show and label the velocity vectors):
 - a. A pumpkin falling off a roof.
 - b. A tired Subaru leaving a stop sign.
 - c. A runner jogging at a constant speed.

1 mile = 1609 meters
1 hour = 3600 seconds
Sin θ = opp/hyp

1 kilometer = 0.621 miles
 $a^2 + b^2 = c^2$
cos θ = adj/hyp

100 centimeters = 1 meter
tan θ = opp/adj