

Physics 10154 - Quiz #3A

Please clearly indicate (with a box) your answers to the following problems. SHOW ALL WORK. If I cannot see how you arrived at an answer to a problem, you will lose points.

1. (40 pts) An airplane travels 245 miles in a direction 25.0° North of West, then 187 miles due South, then 143 miles in a direction 14.5° South of East. What is the magnitude and direction of the resultant displacement?

2. (60 pts) A baseball is struck with an initial speed of 47 meters/sec at an angle of 15° above the horizontal from an elevation of 0.50 meters off the ground. The ball barely clears the 4.5 meter tall fence in left field.

- a) How far away (in feet) is the left field wall from the batter?
- b) What is the magnitude and direction of the ball's velocity at the instant it clears the wall?