



General Physics-I, Quiz 1
PHYS1000AA, Fall Semester-103
10-07-2014

Chapter 1-6, Serway; *ANY TYPES OF CHEATING WILL MAKE YOU FAIL!*
Please write down the answers on the blank space or on the back of this paper. Answer should be in english. [] indicates the question points.

1. What is the difference between 'distance' and 'displacement'? While exploring a cave, spelunker starts at the entrance and moves the following distances; she goes 80 m north, 250 m east, 125 m at an angle 30.0° north of east, and 200 m south. Find the resultant displacement from the cave entrance. [40 p]
2. Write down the dimension of force. Let a table of 10 kg is pulled with the acceleration $a = (2.00\hat{i} + 5.00\hat{j}) \text{ m/s}^2$. Find the resultant force acting on it and the magnitude of the resultant force. Is there any effect of gravitational force? [30 p]
3. Write down the formula of Newton's second law of motion. Let the earth is moving in a circular path with a speed 30 km/s around the sun. If the distance between the earth and sun is $150 \times 10^7 \text{ km}$ (a) find the force acting on the earth as it revolve (b) Is this force equal to the centrifugal force? If not what result do you expect? [The earth mass = $5.97219 \times 10^{24} \text{ kg}$]. [30 p]