

## Homework 1

## PHYS 211

Dr. Amir

2. How many significant figures do each of the following numbers have: (a) 214, (b) 81.60, (c) 7.03, (d) 0.03, (e) 0.0086, (f) 3236, and (g) 8700?
3. Write the following numbers in powers of ten notation: (a) 1.156, (b) 21.8, (c) 0.0068, (d) 328.65, (e) 0.219, and (f) 444.
7. Add  $(9.3 \times 10^3 \text{ s}) + (8.3 \times 10^4 \text{ s}) + (0.008 \times 10^6 \text{ s})$
11. Write the following as full (decimal) numbers with standard units: (a) 286.6 mm, (b)  $85 \mu\text{V}$  (c) 760 mg, (d) 60.0 ps, (e) 22.5 fm, (f) 2.50 gigavolts.
13. Determine your own height in meters, and your mass in kg.
19. Determine the conversion factor between (a) km/h and mi/h, (b) m/s and ft/s, and (c) km/h and m/s.
23. The diameter of the Moon is 3480 km. (a) What is the surface area of the Moon? (b) How many times larger is the surface area of the Earth?
41. (a) How many seconds are there in 1.00 year? (b) How many nanoseconds are there in 1.00 year? (c) How many years are there in 1.00 second?