

**PHYS 141**  
**In Class Assignment #1**

Name:

Box #:

1. Write down one thing you learned about the math or physics tools we looked at today (2pts).
2. Write down a question you have about the math or physics tools we looked at today. (You must write a question to get credit.) (2pts)

3. For each quantity given, write the equivalent quantity using scientific notation and the standard SI unit (m, kg, s) or non-prefix unit (bytes, joules). (1pt each) (example: 10 mg =  $1.0 \times 10^{-5}$  kg)

a) 45 micrometers \_\_\_\_\_

b) 4 terabytes \_\_\_\_\_

c) 175 picoseconds \_\_\_\_\_

d) 22 kilometers \_\_\_\_\_

e) 163 grams \_\_\_\_\_

f) 99 milliliters \_\_\_\_\_

g) 12.6 centimeters \_\_\_\_\_

h) 3.2 femtometers \_\_\_\_\_

i) 13.9 megajoules \_\_\_\_\_

j) 1000 decimeters \_\_\_\_\_

k) 0.002 kilometers \_\_\_\_\_

4. Write the following with the correct number of significant figures (1pt each)

a)  $0.0047 \times 2.58 =$

b)  $0.7 / 0.0163 =$

c)  $8.36 + 7.48 =$

d)  $52.1 + 0.02736 =$

e)  $9.563 - 9.35472 =$

f)  $(5.29 \times 10^3)(6.8 \times 10^{-7}) =$

g)  $(2.99792 \times 10^8)/(5.520 \times 10^{-7}) =$

5. Unit Conversions

a) If the speed limit on the autobahn reads 120 km/h, what is this in mi/h? (3pts)

b) A chip has an area of 1.25 square inches. What is this in square centimeters? (3pts)