

Name: _____ Date: _____

m_r^β **Physics Practice: Units practice**

Solve the problems below, showing every detail of your work as practiced in class.

1 inch = 2.54 cm	$c \approx 300,000$ km/s	5280 feet = 1 mile	12 inches = 1 foot
1 ml = 1 cm ³	1 nanosecond = 10^{-9} sec	1 metric ton = 1000 kg	KE = $\frac{1}{2}mv^2$
1 ml water \approx 1 gram	1 gram TNT = 4184 Joules	1 Joule = 1 N·m	2.2 pounds \approx 9.8N
100 cm = 1 meter	1 year = 365.25 days	$g \approx 9.8$ m/s	2.2 lbs (at 1g) \approx 1 kg

1. How many seconds are there in a day?

2. How many hours are there in a year?

3. If you are traveling 70 mph, what is your speed in feet per second?

4. While driving in Canada, you see the speed limit is 100 km/hour. What is that in mph?

5. How many inches are in a meter?

6. How many years is a billion seconds?

7. How many feet does light travel in a nanosecond?

8. What is the difference between mass and weight?

9. How much does a cubic foot of water weigh in pounds?

10. The ISS (International Space Station) has a mass of 440,000 kg, and is traveling 7.7 km/sec.

- a. How much would the ISS weigh on earth?
- b. What is its kinetic energy in metric tons of TNT?