

MSC 1012 questions for Chapter 1 set 2

Unit conversions:

Convert the following SI quantities:

- 1) How many centimeters are there in 52 m? \_\_\_\_\_
- 2) How many meters are there in 23 km? \_\_\_\_\_
- 3) How many meters are there in 4.5  $\mu\text{m}$ ? \_\_\_\_\_
- 4) How many joules (J) are there in 15.5 kJ? \_\_\_\_\_
- 5) How many watts (W) are there in 10.0 GW? \_\_\_\_\_
- 6) How many kilowatts are there in 10.0 GW? \_\_\_\_\_
- 7) How many nanometers are there in  $1.3 \times 10^{-10}$  m? \_\_\_\_\_
- 8) How many micrometers are there in 5000 nm? \_\_\_\_\_

Convert the following between SI and “British” units using the conversion factors given.

- 9) How many inches correspond to 3.50 m? \_\_\_\_\_
- 10) What is the area of a 1500  $\text{ft}^2$  house in terms of square meters? \_\_\_\_\_
- 11) How many centimeters are there in one inch? \_\_\_\_\_
- 12) How many cubic centimeters are there in a cubic inch? \_\_\_\_\_
- 13) How many kilojoules are there in 20 British thermal units (BTU)? \_\_\_\_\_
- 14) What mass in kilograms does a man weighing 220 lbs have? \_\_\_\_\_
- 15) What is the weight in pounds of a 1.00 Mg load of gravel? \_\_\_\_\_

Conversion factors:

$$39.37 \text{ in} \equiv 1 \text{ m} \quad 1 \text{ BTU} = 1.055 \text{ kJ} \quad (\text{J} = \text{joule})$$

$$1 \text{ kg yields } 2.20 \text{ lbs on Earth ( I. E., may use } 1 \text{ kg} = 2.20 \text{ lbs for Earth)}$$