Homework on Chapter 1

Question One:

Select the most correct answers of the followings:

1. The SI unit of the temperature is:
 a) Kelvin   b) candela   c) mole   d) meter

2. Three nanosecond (3 n s) is equal to:
 a) 2×10^{-3} s   b) 2×10^{-2} s   c) 2×10^{-6} s   d) 3×10^{-9} s

3. Thirty minutes (30 min) is equal:
 a) 90 S   b) 900S   c) 1800 S   d) 180 S

4. Convert 3 miles to meter, (Knowing that 1 mile =1,609 m)
 a) 4.827m   b) 4827m   c) 48270m   d) 48.27m

5. The quantity which is not basic is:
 a) Length   b) mass   c) force   d) time

Question two:

Complete the following statements:

1. The SI unit of the mass is ………
2. Kelvin is the (SI) unit of………..…
3. The SI unit of the Luminous intensity is………...
4. Unit of amount of Substance in the (SI) is……….
5. One millisecond (1ms) is equal to …………
6. One nanometer (1 nm) is equal to …………m
7. Length is ……...quantity.

Question three:

Solve the following problems:

1. Show that the expression $v = v_i + at^2$ is dimensionally correct, where v and vi represent speed, a is acceleration, and t is time interval .

2. Knowing that the velocity of a particle is given by $v = Ka$ where a is the acceleration. Find the unit of the constant K.