2016 first quarter physics 2nd worksheet for grade 9th.

Name:-_____ Section _____ No. _____

I. Choose the best answer.

1. Which set of quantities are all vectors?
   A. acceleration, displacement, velocity
   B. extension, force, gravitational potential energy
   C. chemical energy, mass, power
   D. weight, kinetic energy, work
2. The level of water in a measuring cylinder is 75 cm3. A stone of volume 20 cm^3 is lowered into the water. What is the new reading of the water level?
   A. 20 cm^3 B. 55 cm^3 C. 75 cm^3 D. 95 cm^3
3. The following statements are about motion.
   1. A plane flies due East for 600 km.
   2. A runner's average speed in a race around a track is 5 m / s.
   3. A snail crawls at 3 mm / s in a straight line towards a lettuce.
   4. A tourist travels 500 km on a journey.

   Which statements describe vector quantities?
   A. 1 and 2 B 1 and 3 C. 2 and 3 D. 2 and 4
4. Power is measured in watts. What is the correct symbol for millions of watts?
   A. mw B mW C. Mw D. MW
5. Which list contains only scalar quantities?
   A. acceleration, displacement, velocity C force, length, time
   B. distance, force, speed D length, mass, speed
6. Which instrument is most easily used to measure the internal diameter of a pipe?
   A. manometer C. micrometer
   B. measuring cylinder D. vernier calipers
7. Which statement about scalars and vectors is correct?
   A. A scalar has direction but no size. C. A vector has direction but no size.
   B. A scalar has size but no direction. D. A vector has size but no direction.
8. Which is the correct statement about force and velocity?
   A. Force and velocity are both scalars. C. Force is a scalar, velocity is a vector.
   B. Force and velocity are both vectors. D. Force is a vector, velocity is a scalar.
9. Which of the following groups of physical quantities consists only of scalars?
   A. acceleration, force, velocity C. force, time, velocity
   B. acceleration, mass, speed D. mass, speed, time

10. One of the following is a basic vector physical quantity. Identify it.
    A. Speed B. Acceleration C. Work D. Displacement
11. One of the following lists a group of derived scalar physical quantity
    A. Distance, Acceleration, Force, Time,
    B. Temperature, Displacement, Pressure, Volume,
    C. Velocity, Force, Torque and Acceleration
    D. Power, Density, Work, Speed and Energy

12. Which of the following statements **is true**?
    A. A scalar quantity can be added to a vector
    B. It is possible for the magnitude of a vector to equal zero even though one of its components is non-zero
    C. Scalar quantities are path dependent, while vectors are not.
    D. Scalar quantities and vector quantities can both be added algebraically
    E. A scalar contains magnitude and direction while a vector does not.
13. For each of the following, write down the symbol and what power of 10 it represents:
    a. Millimeter b. centimeter c. meter d. kilometer e. µg f. mg g. kg h. Mg
14. Write each of the following in scientific notation, correct to 2 decimal places:
    a. 0.00000123N. b. 417,000,000kg c. 246800A d. 0,00088 mm
15. Rewrite each of the following, using the correct prefix using 2 decimal places where applicable:
    a. 0,00000123 N b. 417 000 000 kg c. 246800 A d. 0,00088 mm
16. What is meant by light year?
17. Name a physical quantity which has: a. unit but no dimension
    b. neither unit nor dimension.
18. Mention a pairs of physical quantities which have the same dimensions.
19. Determine the number of significant digits in each number.
    a. 2605.40 d. 325 g. 52,000
    b. 10, 733 e. 0.0004 h. 8000
    c. 0.00420 f. 3000.0 i. 325.00
20. Multiply or divide as indicated Round the final answer to the appropriate number of significant digits.
    a. 27.3 X 4.5 e. 30.0 X 25.00 i. 6.14 X 30.5 X 500.0
    b. 4.68 X 400 f. 4.1 X 6.22 X 5.478
    c. 323 X 0.0002 g. 4008÷ 3.0
    d. 4008 ÷ 2.763 h. 0.009 ÷ 7
21. Add or subtract as indicated. Round to the appropriate number of decimal places.
    a. 5.72 + 2.225 e. 66.3 + 27.008 h. 6.62 + 23.245 −40.1
    b. 500 –79.4 f. 67.45 –12.2
    c. 0.006 + 0.04 g. 13.708 − 4 i. 64 – 3.88
    d. 84.3 – 0.009
22. Change the following numbers to the appropriate units of measurement.

a. 78.36 liters = _____ milliliters
b. 12.3 meters = _____ centimeters
c. 76.3 millimeters = _____ centimeters
d. 143.2 meters = _____ millimeters
e. 312 milligrams = _____ grams
f. 15.3 milliliters = _____liters
g. 7.5 grams = _____ milligrams
h. 36km/hr = _____m/min
i. 1kg/m3 = _____g/mm3
j. 10 g/cm3 = _____ kg/mm3

23. Give three examples for each, if possible.
    a. Basic vector Physical Quantity. c. Derived vector Physical Quantity.
    b. Basic scalar Physical Quantity. d. Derived scalar Physical Quantity.
24. Below, some physical quantities are listed. Determine their symbol, SI unit, Basic/Derived, and vector/scalar: Distance, Speed, Acceleration, Time, Force, Work, Displacement, Velocity, Volume, Pressure, Power, Torque, Density, Temperature and Energy.