St. John Baptist De La Salle Catholic School, Addis Ababa,

Name of student:_____ Subject: Physics
Grade: 9th Section: _____ 1st QUARTER FINAL EXAM time allowed1:30hr
Number: _____ Date: NOVEMBER 2024 G.C/ HIDAR 2017 E.C

I. Write `True` if the statement is correct or` False` if it is incorrect on the space provided.

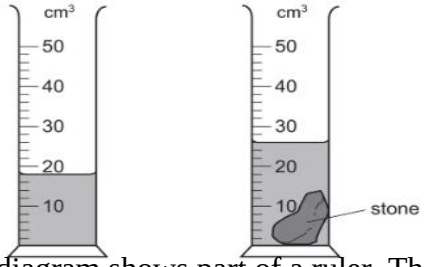
1. Error can be avoided by using modern measuring instrument.
2. "Temperature measured in Celsius" is an example of a ratio scale variable.
3. Random errors are caused by unpredictable variations in the measurement process.
4. A micrometer is used to measure very small distances.
5. Physics is concerned with understanding the fundamental laws of the universe.

II. Mach column A with appropriate unit in B

A	B
6.Length	A. Joule
7.Electric current	B. Newton
8.Temperature	C. Candela
9.Amount of substance	D. mole
10. Force	E. kelvin
	F. ampere
	G. meter

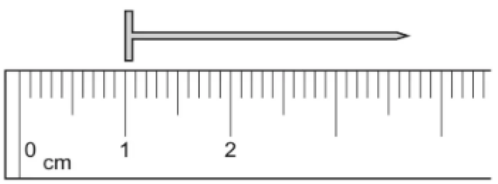
III. Choose the correct answer and write the letter of your choice on the space provided.

11. A student measure the time it takes for participant to complete a task, what level of measurement is this?
    A. Ratio B. nominal C. ordinal D. interval
12. Which of the following is not the unit of time?
    A. Second B. hour C. minute D. light year
13. Which of the following is dimension less quantity?
    A. Force B. pressure C. relative density D. momentum
14. Which is heavier, a kilogram of feather or a kilogram of stone?
    A. feather B. stone C. they weight the same D. it depends on the size of the feather and stone
15. For a student measured the length of needle whose least count is 1mm, what is the reading?
    A. 0.2185m B. 0.41m C. 0.437m 0.6m
16. Which of the following sets contains only fundamental physical quantities?
    A. time, force, charge, mass C. mass, temperature, electric current, charge
    B. length, energy, power, acceleration D. torque, time, temperature, momentum
17. How many seconds are there in one year
    A. $3.156x10^6$s B. $3.156x10^8$s C. $3.156x10^{10}$s D. $3.156x10^7$s
18. The diagram shows a measuring cylinder used to measure the volume of small stone



What is the volume of the stone?
A. $8cm^3$ B. $9cm^3$ C. $14cm^3$ D. $26cm^3$.

19. The diagram shows part of a ruler. The ruler is used to find the length of a nail.



What is the length of the nail?
A. 2.2cm B.2.7cm C. 3.2cm D. 3.7cm

20. Which of the following pair of physical quantity have the same unit?
    A. Force and weight B. work and energy C. mass and weight D. A and B
21. Which of the following is **not correct** about physics?
    A. It is a science of measurement C. is studies about laws of nature
    B. It deals about chemical composition of matter D. it deals with matter energy, and their relationship
22. 5 hours+60minutes+60 seconds are equal to:
    A. 361minutes B. 360 minutes C. 361 seconds D. 360 seconds
23. How many kilograms are there in 800grams?
    A. 0.0008kg B. 80kg C. 0.8kg D. 800kg
24. One of the following is true about dimensional expression of density?
    A. $[MLT^{-3}]$ B. $[ML^{3}]$ C. $[ML^{-3}]$ D. $[MT^{-3}]$
25. A movie last 2hour and 30 min. how many minutes is this in total?
    A. 120min B. 150min C. 180min D. 210min
26. Identify the most reasonable unit to measure the distance from Addiss Abeba to Gambela is:
    A. Km B. m C. cm D. mm
27. Which of the following is correct?
    A. 1tone=100kg B. 1kg=1000mg C. 2 tone =2000kg D. 2g=0.002mg
28. The branch of physics which deals with atomic nuclei is called
    A. Acoustics B. Thermodynamics C. Magnetism D. Nuclear physics
29. The Amount of matter contained in a body is:
    A. Volume B. mass C. length D. area
30. The SI standard of time is based on:
    A. The daily rotation of the earth B. the frequency of light emitted by Kr86
    B. the yearly revolution of the earth about the sun D. a period of particular radium emitted by cesium 133 atom

IV. Answer the following questions.

1. 30cm+40mm+50m=_____
2. Length at olden days were measured in _____,_____,_____
3. What is measurement_____
4. What are the three key elements in measurement_____, _____ and _____
5. Define Physical quantities:_____

V. Work out the following questions accordingly.

1. Yared's favorite television starts at 3:15. If he gets home from school at 2:30, how long does he have until his show starts in second?

2. In one side of the beam balance there is 3kg paper,4kg iron and 30g aluminum. What amount of mass must be placed on the other side to be balanced?

3. A 100g mass is immersed in a measuring cylinder containing some water. The level of water changes from $20cm^3$ to $25cm^3$. What is the density of the material?

4. Explain interval scale and ratio scale

5. Describe each part of the scientific method. Explain why it is important to follow this structure when conducting a scientific investigation.

6. Seden is 167 cm tall. Gifti is 66 inches tall. Who is taller and by how much. The conversion factor for inches to centimeters is 2.54 cm/1 inch.

7. Iron has a density of $7.87g/cm^3$,and the mass of an iron atom is 9.27×10^{26}kg.If the atoms are spherical and tightly packed,(a) what is the volume of an iron atom

8. A solid cube of aluminum (density 2.7 g/cm^3) has a volume of 0.20 cm^3. How many aluminum atoms are contained in the cube?

9. Convert: 4kmto cm

10. convert 2.5min to second

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