

Swadhaa Waldorf Learning Centre
Physics Test Paper Grade 9 Ch. 1

Grade: 9 Duration: 1 hour Subject: Physics 0625 Marks: 50

Child's Name:

You must answer on the question paper.
Good luck!

INSTRUCTIONS :

- Answer all questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name in the space at the top of the page.
- Write your answer to each question in the space provided.
- Do not use an erasable pen or correction fluid.
- You may use calculators in this paper.
- You may use tracing paper.
- You must show all necessary working clearly.

For the examiner:

Question:	1	2	3	4	5	6	7	8
Marks:	1	1	1	1	4	1	4	1
Score:								

Question:	9	10	11	12	13	14		Total
Marks:	1	5	5	7	8	10		50
Score:								

Multiple Choice Questions

Marks : 15

No partial credit will be awarded. Circle *one* choice for each of the multiple-choice questions.

1. The unit SI units of length, mass and time are : m, kg, s. [1]
These are called
 - A. Derived units
 - B. Fundamental units.
 - C. Natural units.
 - D. Commercial units.
2. Which of the following quantities are NOT measured in derived unit? [1]
 - A. width of pencil
 - B. space occupied by a balloon
 - C. speed of a car
 - D. area of a shadow of a person
3. The correct unit in SI system for density ρ is: [1]
 - A. kg^2/m^3
 - B. kg/cm^2
 - C. kg/m^3
 - D. g/L^3
4. The oil floats on water because ? [1]
 - A. Oil has less mass than water
 - B. 1 kg water occupies less space than 1 kg oil
 - C. 1 L water occupies more space than 1 L oil
 - D. 1 kg water occupies same space as 1 kg oil.

5. If mass of a boy is 32kg and typical density of a human body is 0.985 g/cm^3

Formula for density : $\rho = \frac{m}{v} \text{ kg/m}^3$

- (a) The density of a typical human body in kg/m^3 is [2]

- A. 985 kg/m^3
- B. 0.001 kg/m^3
- C. 9.85 kg/m^3
- D. 0.00985 kg/m^3
- E. 0.985 kg/m^3

- (b) Volume of the boy's body is [2]

- A. 9.85 m^3
- B. 0.03248 m^3
- C. 9 m^3
- D. 30.781 m^3
- E. 1 m^3

6. Which of the following statements is true [1]

- A. Meter rule with mm markings is more accurate than Vernier caliper
- B. Vernier caliper has accuracy of 0.01 mm
- C. Vernier caliper is used to measure accurate time
- D. Vernier caliper is used primarily to measure road lengths

7. Consider following equipments [4]

1 Meter long measuring stick
10 Meters long Measuring tape
1 Foot long student's scale

State if following statements are True or False

- A. 1 ft scale is more accurate than 1m rule which is more accurate than 10m measuring tape : _____
- B. 10m measuring tape will be used to measure a shape of a room : _____
- C. Leaving practical difficulties aside you can measure any given length by either of these instruments : _____
- D. The 1m rule and 1ft scale can not be used to measure lengths that are not straight lines : _____

8. A stop watch was used to measure a runner in race with following readings at start and end of the lap. [1]

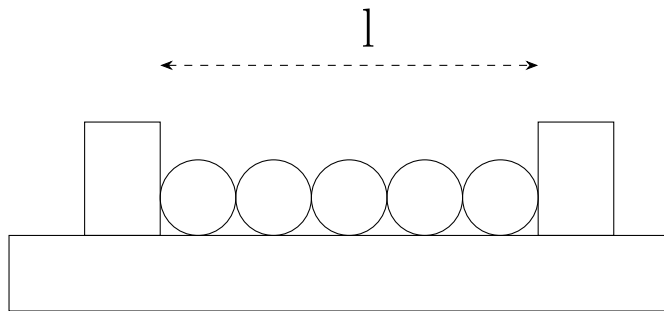
1. 1m:40s:100ms

2. 2m:50s:100ms

How long did the runner take to finish the lap?

- A. 50.1s
- B. 50s
- C. 90se
- D. 110.5s

9. In following diagram if $l = 15.5$ cm [1]



What is the diameter of each coin?

- A. 310mm
- B. 31mm
- C. 3310mm
- D. 3100mm

Theory

Marks : 25

For the following problems, show all your work. Partial marks will be awarded for correct reasoning. Write units for all your answers. Answers without corresponding units in each step will be given zero marks.

10. A plot of land has following dimensions:

Width = $20ft$ and Length = $30ft$.

(a) Calculate area of the plot in ft^2 as unit.

[1]

(b) Convert the area of the plot in SI units. Hint : $1ft = 0.305m$

[2]

(c) If rectangular shade of height $10ft$ was erected on the entire plot. What will be the volume of the whole shade? (Ignore the thickness of the walls),

[2]

11. Complete the following table. e.g. SI unit of length is m

[5]

Quantity	SI unit
Length	m
Area	
Time	
Volume	
Density	
Diameter	

12. Solve the blanks

(a) $23 \text{ ft}^2 = \underline{\hspace{2cm}} \text{ m}^2.$ [1]

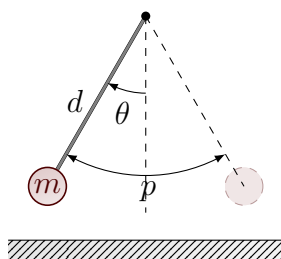
(b) $1 \text{ kg/m}^3 = \underline{\hspace{2cm}} \text{ g/cm}^3.$ [2]

(c) $1 \text{ cm}^3 = \underline{\hspace{2cm}} \text{ mm}^3.$ [1]

(d) $1h : 2m : 29s = \underline{\hspace{2cm}} \text{ s}.$ [1]

(e) $36000s = \underline{\hspace{1cm}}h \underline{\hspace{1cm}}m \underline{\hspace{1cm}}s.$ [2]

13. Consider the pendulum in the picture



The distance d is measured from the bottom of the clamp to the center of the bob.

The student adjusts the length of the pendulum until $d = 50.0$ cm.

He displaces the bob slightly and releases it so that it swings.

He uses a stop-watch to measure the time t for 10 complete oscillations

The stop watch reading: 00m : 14s : 210 ms

(a) Calculate the period of pendulum :

[1]

(b) List down three different kind of inaccuracies that can make the measurements go wrong

[3]

(c) State if the statement is True or False:

[4]

The pendulum's period increases as its mass m increases - _____

The pendulum's period depends on θ - _____

The pendulum's period increases as its length L increases - _____

The pendulum's period will NOT change even if the student pushes the pendulum with harder force - _____

Marks : 10

(a) Equipment Needed:

$$[1]$$
$$[1]$$

(c) Diagram of the setup

[3]

(d) Procedure

[3]

[illegible]

- [2]

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on its right side, suggesting it's resting on a surface.