الإدارة المركزية التعليم العام

تنمية مادة العلوم



الإدارة المركزية للتعليم العام

Physics

الصف الثاني الثانوي

2026 / 2027

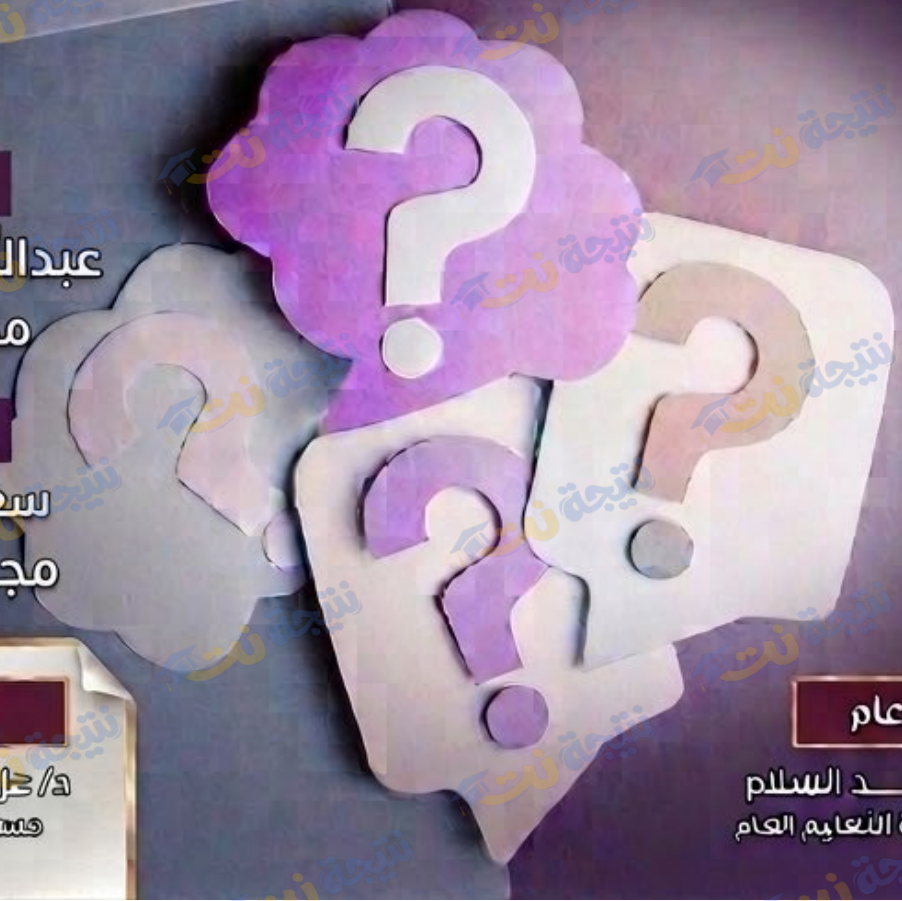
الواجب المنزلي + التقييم

الأسبوع

الاسم: .....

الفصل: .....

المدرسة: .....



إعداد

عبدالله مصطفى

محمد عنتر

مراجعة

سعيد محمد

مجدي فتحي

إشراف

د/ عزة رجب خليفة

مستشار العلوم

إشراف عام

د/ هالة عبد السلام

رئيس الإدارة المركزية للتعليم العام

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Measurement - types of physical quantities - the International System of Units, and standard units:

First: Choose the correct answer:

1. Which of the following is a derived physical quantity?

- A) The mass of a container filled with oil
- B) The time of the Earth's rotation around itself
- C) The distance between Cairo and Minya
- D) The weight of a small elephant

2. The unit of length in the Gaussian system is:

- A) Foot
- B) Kilometer
- C) Meter
- D) Centimeter

3. A Vernier caliper is used to measure:

- A) Length
- B) Mass
- C) Speed
- D) Time

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4. If speed (v) = distance (d) / time (t), what is the unit of speed in the British system?

- A) Meter/second
- B) Centimeter/second
- C) Meter/hour
- D) Foot/second

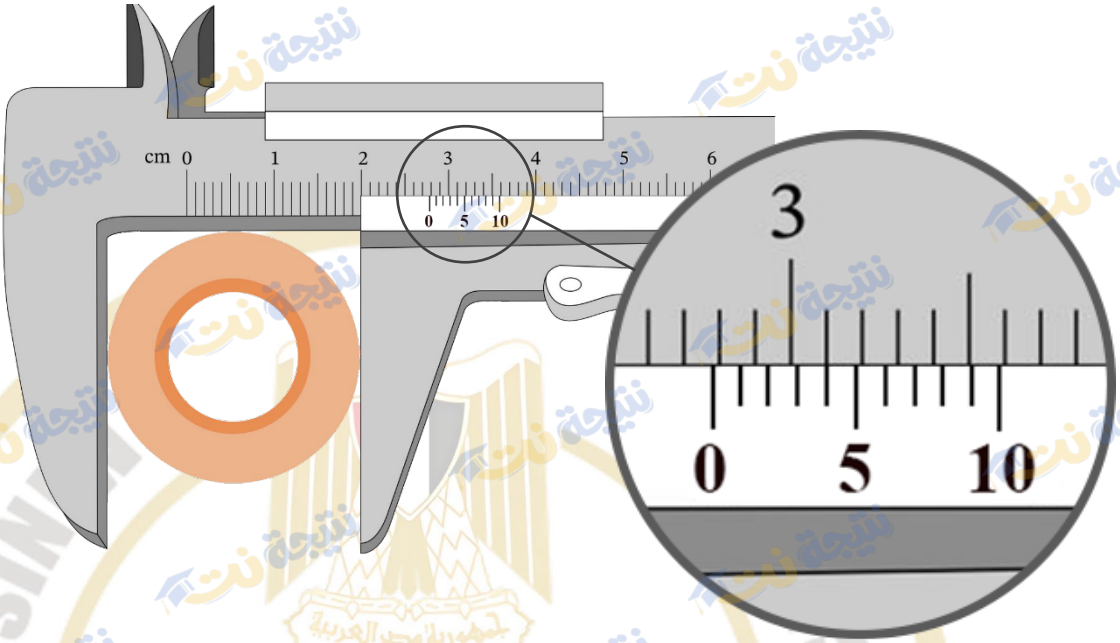
5. The solid angle in the International System is measured in:

- A) Radian
- B) Steradian
- C) Kelvin
- D) Ampere

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6. In the following figure, a student used a vernier caliper to measure the diameter of a small metal disc. According to the caliper reading, the diameter of the disc is:

- A) 27.4 cm
- B) 24.7 mm
- C) 27.4 mm
- D) 24.7 cm



7. When measuring the mass of a gold ring, it is preferable to use:

- A) Roman balance
- B) Digital balance
- C) Hourglass
- D) Measuring tape

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Second: Essay Questions:

8. Complete the following table with suitable physical quantities or units of measurement:

Physical quantity	Gaussian system	Metric sysrem	British system
----------	second	……	----------
……	----------	----------	Pound
----------	……	meter	----------

9- Compare between standard meter, standard kilogram and second

Point of compariso	Definition	Physical quantity
Standard meter	---------- ----------	
Standard kilogram	---------- ----------	
Second	---------- ----------	

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Group [A]

1- When measuring the mass of a gold ring, it is preferable to use:

- A) Roman balance
- B) Digital balance
- C) Hourglass
- D) Measuring tape

2. The appropriate tool to measure swimming race times is:

- A) Measuring tape
- B) Stopwatch
- C) Hourglass
- D) Digital scale

3. The gram is the unit of mass in the _____ system.

- A) French
- B) International
- C) British
- D) Metric

4- **The speed of the Earth's rotation around itself is not considered one of the basic physical quantities. Explain why.**

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5- **Mention some of the measuring tools used to measure length, mass, and time.**

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Group [B]

1. The second is the unit of time in the _____ system.

- A) French
- B) Metric
- C) British
- D) All of the above

2. The pound is the unit of mass in the _____ system.

- A) French
- B) International
- C) British
- D) Metric

3. The most accurate clock used for measuring time is the:

- A) Hourglass
- B) Atomic clock
- C) Pendulum clock
- D) Stopwatch

4- What is the unit of measurement for electric current intensity and luminous intensity in the International System of Units?

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5- If the physical quantity (X) = $\frac{\text{mass (m)}}{\text{time (t)}}$, Deduce the unit of measurement for the quantity (X) in the French system.

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Group [C]

1. Which of the following is a fundamental physical quantity?

- A) The speed of the Moon revolving around the Earth
- B) The radius of a hydrogen atom
- C) The air pressure inside a balloon
- D) The density of water

2. The unit of length in the Gaussian system is:

- A) Foot - B) Kilometer - C) Meter - D) Centimeter

3. A Vernier caliper is used to measure:

- A) Length - B) Mass - C) Speed - D) Time

4- Why was glass not used instead of the platinum-iridium alloy as a standard unit for measuring length.

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5- Give reasons why the atomic clock is preferred for measuring time.

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