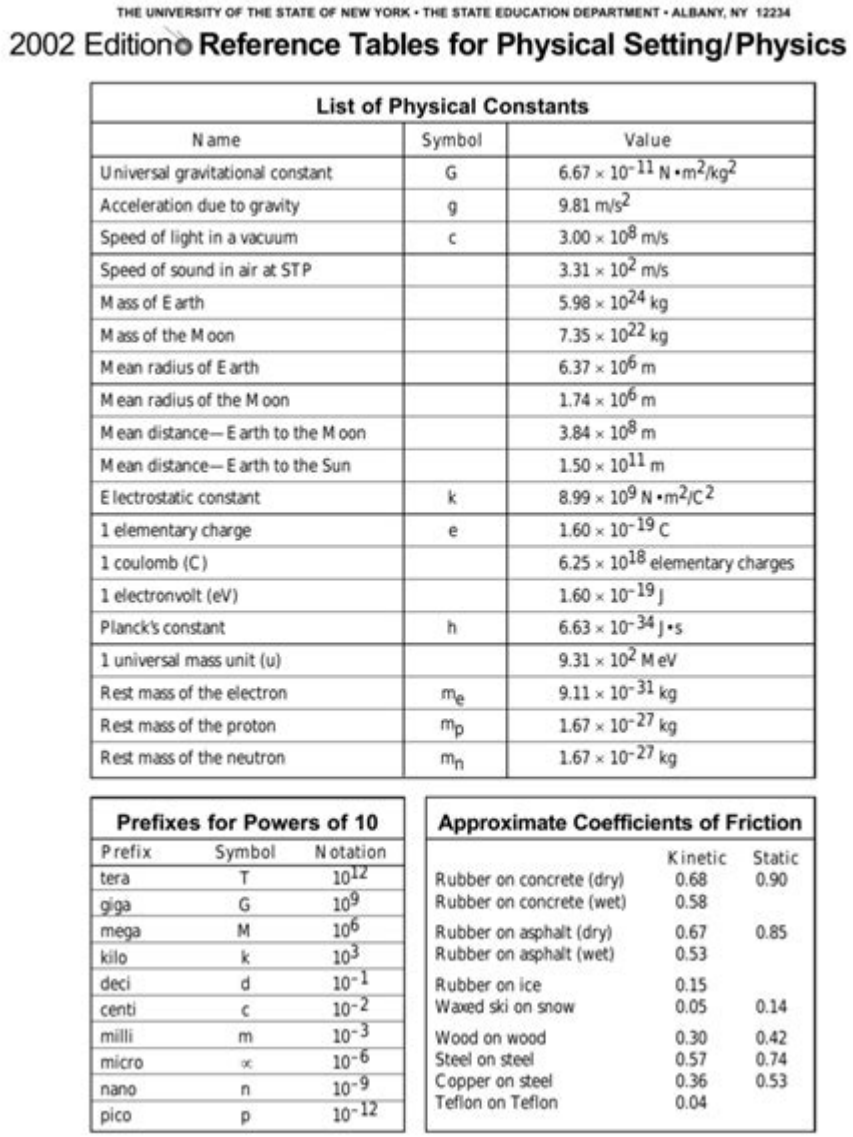
Nys Physics Regents Reference Table



THE UNIVERSITY OF THE STATE OF NEW YORK • THE STATE EDUCATION DEPARTMENT • ALBANY, NY 12234

2002 Edition Reference Tables for Physical Setting/Physics

List of Physical Constants

Name	Symbol	Value
Universal gravitational constant	G	6.67×10^{-11} N•m^2/kg^2
Acceleration due to gravity	g	9.81 m/s^2
Speed of light in a vacuum	c	3.00×10^8 m/s
Speed of sound in air at STP		3.31×10^2 m/s
Mass of Earth		5.98×10^{24} kg
Mass of the Moon		7.35×10^{22} kg
Mean radius of Earth		6.37×10^6 m
Mean radius of the Moon		1.74×10^6 m
Mean distance—Earth to the Moon		3.84×10^8 m
Mean distance—Earth to the Sun		1.50×10^{11} m
Electrostatic constant	k	8.99×10^9 N•m^2/C^2
1 elementary charge	e	1.60×10^{-19} C
1 coulomb (C)		6.25×10^{18} elementary charges
1 electronvolt (eV)		1.60×10^{-19} J
Planck's constant	h	6.63×10^{-34} J•s
1 universal mass unit (u)		9.31×10^2 MeV
Rest mass of the electron	m_e	9.11×10^{-31} kg
Rest mass of the proton	m_p	1.67×10^{-27} kg
Rest mass of the neutron	m_n	1.67×10^{-27} kg

Prefixes for Powers of 10

Prefix	Symbol	Notation
tera	T	10^{12}
giga	G	10^9
mega	M	10^6
kilo	k	10^3
deci	d	10^{-1}
centi	c	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}
nano	n	10^{-9}
pico	p	10^{-12}

Approximate Coefficients of Friction

	Kinetic	Static
Rubber on concrete (dry)	0.68	0.90
Rubber on concrete (wet)	0.58	
Rubber on asphalt (dry)	0.67	0.85
Rubber on asphalt (wet)	0.53	
Rubber on ice	0.15	
Waxed ski on snow	0.05	0.14
Wood on wood	0.30	0.42
Steel on steel	0.57	0.74
Copper on steel	0.36	0.53
Teflon on Teflon	0.04	

NYS Physics Regents Reference Table is an essential resource for students preparing for the New York State Physics Regents Examination. This standardized test assesses students' understanding of physics concepts, principles, and applications, and the reference table serves as a vital tool to help them navigate through various topics efficiently. In this article, we will explore the structure and components of the NYS Physics Regents Reference Table, its significance in the examination, and tips on how to utilize it effectively for optimal performance.

Understanding the NYS Physics Regents Reference Table

The NYS Physics Regents Reference Table is a compilation of important information, formulas, and

constants that students can refer to during the exam. It is designed to aid students in solving problems effectively without memorizing every formula or constant. The table includes various sections, each focusing on different physics concepts, which are critical for the exam.

Key Components of the Reference Table

The reference table comprises several sections, each containing specific types of information. Below are the key components:

1. **Physical Constants:** This section lists fundamental constants such as the speed of light, gravitational constant, and Planck's constant. These values are crucial for calculations in various physics problems.

2. **Formulae:** The reference table includes essential equations related to mechanics, electricity, magnetism, waves, and thermodynamics. Students can find formulas for kinetic energy, potential energy, Ohm’s law, and more.

3. **Unit Conversions:** This section helps students convert between different units of measurement, ensuring they can accurately interpret and solve problems regardless of the units given.

4. **Graphs and Diagrams:** The table features various graphs and diagrams that illustrate important concepts, such as the electromagnetic spectrum or the motion of objects under different forces.

5. **Periodic Table of Elements:** A simplified periodic table is included, providing atomic numbers, symbols, and average atomic masses for common elements, which is vital for chemistry-related physics problems.

Significance of the Reference Table in the Physics Regents Examination

The NYS Physics Regents Reference Table holds considerable significance in the examination process for several reasons:

1. Reduces Memorization Burden

The reference table alleviates the need for students to memorize every single formula or constant. By providing this resource, the New York State Education Department allows students to focus more on problem-solving skills rather than rote memorization.

2. Enhances Problem-Solving Skills

With easy access to equations and constants, students can apply these tools to solve various physics problems systematically. The reference table encourages logical reasoning and critical thinking, as students must decide which formulas and constants to use based on the context of the questions.

3. Facilitates Efficient Time Management

During the examination, time is a crucial factor. The reference table allows students to quickly locate necessary information, enabling them to spend more time on complex problems rather than searching for formulas or values. This efficiency is vital for maximizing scores.

4. Provides a Safety Net for Students

For many students, the physics exam can be daunting, and anxiety can lead to memory lapses. The reference table acts as a safety net, ensuring that even if students forget a formula, they can still find it during the exam, reducing stress and improving confidence.

How to Effectively Use the NYS Physics Regents Reference Table

Mastering the use of the NYS Physics Regents Reference Table can lead to better performance in the exam. Here are some tips on how to utilize this resource effectively:

1. Familiarize Yourself with the Layout

Before the exam, spend time reviewing the table to become familiar with its layout. Knowing where specific information is located can save valuable time during the test. Identify sections that you think you will refer to most frequently, such as formulas for mechanics or electricity.

2. Practice Problem-Solving with the Table

Incorporate the reference table into your study sessions. While practicing problems, use the table to find the relevant formulas or constants. This practice will help you become comfortable using the table in a timed setting.

3. Highlight Key Formulas and Constants

If you have a printed version of the reference table, consider highlighting or marking key formulas and constants that you commonly use. This quick reference can be invaluable during the exam and can help you find information quickly.

4. Work on Sample Exams

Utilize past NYS Physics Regents exams to practice using the reference table. Analyzing how different questions relate to the information in the table will enhance your understanding of how to apply it effectively during the actual exam.

5. Study with Peers

Collaborative study sessions can enhance your understanding of the reference table. Discussing problems and solutions with peers can provide new insights and strategies for using the table to solve physics problems.

Conclusion

The NYS Physics Regents Reference Table is an invaluable resource for students preparing for the Physics Regents Examination. By understanding its structure and components, recognizing its significance, and learning effective strategies for using it, students can enhance their problem-solving skills and improve their chances of success. As you prepare for the exam, remember that the reference table is not just a collection of formulas and constants; it is a tool that can empower you to tackle challenging physics problems with confidence. With diligent study and practice, you can master the concepts of physics and perform well on the exam, paving the way for future academic success in the field of science.

Frequently Asked Questions

What is the NYS Physics Regents Reference Table?

The NYS Physics Regents Reference Table is a resource provided by the New York State Education Department that includes essential formulas, constants, and information needed for the Physics Regents Examination.

Where can I find the NYS Physics Regents Reference Table?

The NYS Physics Regents Reference Table can be found on the New York State Education Department's website, often as a downloadable PDF document for students and educators.

What topics are covered in the NYS Physics Regents Reference Table?

The table covers a variety of topics including mechanics, thermodynamics, waves, electricity, magnetism, and modern physics, along with relevant formulas and constants.

How do I effectively use the NYS Physics Regents Reference Table during the exam?

To effectively use the table during the exam, familiarize yourself with its layout beforehand, know where to quickly find key formulas, and practice applying them to various problems.

Are there any tips for memorizing the information in the NYS Physics Regents Reference Table?

Tips for memorizing include creating flashcards for key formulas, regularly practicing problems that use these formulas, and grouping related concepts together to aid recall.

Is the NYS Physics Regents Reference Table different for different years?

While the core content of the NYS Physics Regents Reference Table remains consistent, minor updates or changes may occur, so it's important to use the most current version for study and exam preparation.

Can I bring my own copy of the NYS Physics Regents Reference Table to the exam?

Students are not allowed to bring their own copies of the NYS Physics Regents Reference Table; a copy will be provided by the exam proctors on the day of the exam.

How can teachers incorporate the NYS Physics Regents Reference Table into their lessons?

Teachers can incorporate the table into lessons by using it as a reference during problem-solving activities, assigning practice problems that require its use, and reviewing its content as part of test preparation.

What is the importance of the constants listed in the NYS Physics Regents Reference Table?

The constants listed in the table, such as the speed of light and gravitational constant, are crucial for solving physics problems accurately as they provide necessary reference values for calculations.

How often is the NYS Physics Regents Reference Table updated?

The NYS Physics Regents Reference Table is typically reviewed and updated periodically, but

significant changes are not frequent. It's best to check for updates before each exam cycle.

Nys Physics Regents Reference Table

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11月9日，腾讯音乐娱乐集团（以下简称TME）宣布，与Apple Music达成音乐授权协定，将通过TME音乐云进行授权音乐作品的全球发行与推广。 TME方面表示，此次协定将为Apple Music全球范围内的用户带来国内厂牌及创作者的音乐内容，并助力中国音乐人的国际化发展，进一步提升中国音乐的全球影响力 ...

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