

Chapter 1 : Physics, Honors - Physics

Honors Physics - Practice Final Exam The following values may be used throughout the test whenever needed: $G = 9.8 \text{ m/s}^2$

Russell Clothier leads students through an investigation of matter and its motion through time and space, along with related concepts such as energy and force. The Acellus Honors Physics course was developed to help students build a strong foundation in basic physics prior to taking Advanced Placement Physics. We have found that students often struggle with AP Physics when they have a weak foundation in the basic concepts and mathematical skills of general physics. Acellus Honors Physics helps to fill in holes in student understanding, helping them to create a strong foundation of general physics concepts upon which they can build. Students will know how to solve 1- and 2-D motion problems, including motion of falling objects as well as projectiles. They will be familiar working with vector quantities. They will also know how to solve problems that involve circular motion and gravity, energy, momentum, and rotational motion. Students will have gained a basic understanding of fluid mechanics and thermodynamics. They will understand oscillations and waves including sound and light waves and know how to solve basic problems based upon these concepts. They will also be familiar with optics and learn how to solve problems pertaining to lenses. They will also have a basic understanding of electric force including DC electric circuits, as well as magnetic forces, induction, and atomic physics. This course was developed by the International Academy of Science. Learn More Scope and Sequence

Unit 1 Introduction to Physics This unit discusses what Physics is, measured numbers, using significant digits, scientific notation, and the metric system. Also covered are math with units, and conversions.

Unit 2 1-D Kinematics This unit discusses position and displacement, average velocity, position graphs, velocity graphs and acceleration, positive, minus, and zero acceleration, 1-D kinematic equations, using motion equations, solving motion problems, free fall and gravity, solving a quadratic for time, and 2-part motion problems.

Unit 3 Vectors and 2-D Kinematics This unit discusses vectors and 2-D motion, graphical addition of vectors, vector components, vector magnitude and direction, analytical addition of vectors, unit vector notation, breaking down and solving 2-D motion, projectile motion, and range versus angle.

Unit 6 Energy This unit discusses work, including positive and negative work, work and energy, kinetic energy, gravitational potential energy, mechanical energy, energy problems with and without work, energy of a pendulum, elastic potential energy, and power.

Unit 7 Momentum This unit covers momentum, impulse, conservation of momentum, collisions, inelastic collisions, recoil, elastic collisions, and 2-D momentum.

Unit 8 Rotational Motion This unit discusses rotational kinematics, rotational motion problems, rotational and linear motion, torque, equilibrium, moment of inertia, rotational dynamics, rotational kinetic energy, and angular momentum.

Unit 10 Thermodynamics This unit discusses heat, temperature, thermal expansion, heat and temperature change, calorimetry, phase change, calorimetry with phase changes, measuring gases, behavior of gases, kinetic theory of gases, the first law of thermodynamics, and heat engines.

Unit 12 Sound This unit covers sound waves, sound properties, the speed of sound, and sound intensity, as well as string instruments, open pipes, closed pipes, and Doppler shift.

Unit 13 Light This unit discusses light waves, color, the electromagnetic spectrum, reflection, index of refraction, refraction, internal refraction, dispersion, interference of light, diffraction grating, single slit diffraction, resolving power, thin films, and doppler shift of light.

Unit 14 Optics This unit discusses lenses and images, thin lens equation, ray tracing, a convex lens with a real image, magnification, and a convex lens with a virtual image, concave lens, optics of the eye, mirror equation, and mirror with virtual image. Also discussed are systems of resistors, capacitors, energy in capacitors, systems of capacitors, and DC versus AC.

Unit 17 Magnetic Forces This unit discusses magnetic forces, magnetic fields, magnetic field from a current, from multiple wires, and from current loops, solenoids and electromagnets, and magnetic force on moving charges. Also covered are the right hand rule, motion of charges in B field, magnetic force on a current, and magnetic force in parallel wires.

Unit 19 Atomic Physics This unit discusses the structure of the atom, the photoelectric effect, atomic spectra, the Bohr model, matter waves, and lasers.

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Chapter 2 : Semester Exams | Mr. Carman's Blog

Honors Physics (Practice Final Exam. Multiple Choice. Identify the letter of the choice that best completes the statement or answers the question.

Grades are calculated by total points. That said, your test grades are the greatest contributor to your grade. There are no quiz make ups; but one quiz grade per term will be dropped. Test and quizzes include both multiple choice and open response questions. There are practice multiple choice mc questions at the links way down on this web site. Most of these mc questions will be qualitative. Tests are in general given at the end of a each chapter; although announced, you should know when they are coming by our progress in class. In the event you miss a a test, with a valid excuse, the make up will be the following Monday after school. Lab reports are due the following lab day. Use the report format, and timing you are familiar with from HChem. I will post "suggested practice. You are responsible for pacing your study with my pace in class. Equations and units are not given or posted during quizzes and exams. I will scale the grades at the end of each term if I feel it is necessary. I will give the class average of each test and quiz if requested. Note with or without a scale your term and final grades will not be a surprise. If your test scores are above average, your grade will be above average. There is no extra credit. Be respectful of others and the classroom; keep quiet unless you are contributing to class, keep our classroom clean, return any classroom materials to their proper place. I understand that you can probably find completed solutions to your homework and test problems. Use them to help in your conceptual understanding and ability to solve problems. I have listed some that I think can help you in our physics class.

Chapter 3 : EXAM REVIEW - HONORS PHYSICS

An object will retain its present state of rest or constant straight line motion unless an unbalanced (net) force acts on it or objects stay at rest will stay at rest and objects in motion will stay in straight line motion unless an unbalanced force acts upon it.

Chapter 4 : Class Home Page

Start studying Physics I Honors Final Exam Review. Learn vocabulary, terms, and more with flashcards, games, and other study tools.

Chapter 5 : Mr. Milligan's Honors Physics

Honors Physics Semester 1 Final Exam Review Answers A physics student was interested in finding the mass of a penny. To do so she grabbed a bunch of pennies and placed them on a scale.

Chapter 6 : Pata, Don / Final Exam Reviews

Honors Physics Second Semester Exam Study Packet. 1. What value can be determined from the slope of a distance vs. time graph? a) velocity b) acceleration c) gravity d) total distance e) displacement.