

PHY 181

Midterm objectives

- Describe the fundamental dimensions: length, mass, and time including their units in both Imperial and International System (SI) units.
- Identify the common International System (SI) prefixes and their equivalent powers of ten.
- Use a calculator (or paper) to represent numbers in scientific notation.
- Rank numbers in scientific notation from least to greatest.
- Perform conversions between different metric prefixes as well as convert between Imperial and SI systems.
- Describe and perform computations involving the physics concepts related to the following terms (including their definition and common units): motion, displacement, distance, instantaneous speed, average speed, instantaneous velocity, average velocity and relative velocity.
- Use Newton's First Law of Motion to explain the relationship between movement and the existence of a net force.
- Use Newton's Second Law of Motion to explain and perform computations involving the relationship between the mass of an object, acceleration, and net force.
- Define what is meant by a scalar quantity and a vector quantity. Be able to identify a number as either a scalar or a vector.
- Define the term force to include its standard units.
- Explain and perform computations involving the concepts of gravity and weight including the relationship between mass and weight.
- Define and analyze conceptual problems involving Newton's Third Law.