

Study Guide - Test 2/28/18

Know the following concepts:

Force	Centripetal Force & Acceler.
Net Force	Energy
Friction	Kinetic & Potential Energy
Types of Friction	Forms of energy
microwelds	GPE & KE
Air resistance	Conservation of Energy
Newton's Law of Motion	
Inertia	
momentum	
Gravity (in relation to mass) distance)	
Projectile Motion	
work	
Machines/Simple Machines	
Input & Output Force	
Mechanical Advantage	
Efficiency	
Simple Machines	

Don't forget to know how to convert.

Formulas: $a = \frac{\Delta v}{t}$ $F = ma$ $v = \frac{d}{t}$

$$p = mv$$

$$GPE = mgh \quad KE = \frac{1}{2}mv^2$$

$$MA = \frac{F_{out}}{F_{in}}$$

$$P = \frac{W}{t}$$

$$W = F \times d$$

Practice Problems:

A cannon ball is dropped from an airplane at an altitude of 12 km. If the mass of the cannon ball was 7 kg, what would be the gravitational potential energy?

If an object in space is pushed with a force of 30 N, what would be the mass of the object if it reached a final velocity of 35 km/hr in 90 seconds? What would be the momentum at its final constant velocity?

If a car traveled 3,000 m in 3600 sec. What would be the kinetic energy as it traveled, if the car has a mass of 1,587 kg?

Tina pushed a couch with a force of 44 N, which caused it to move a distance of 60 cm. What would the amount of work that was produced? If Tina constantly applied this work every second for 6 s what would be the power?

A coffee cup is set on a table with a mass of 30 g , putting it 1.7 m from the ground. What would its gravitational potential energy be?

If a lever is used to achieve a force of 70 N , causing an object to move 7 cm , what would be the amount of force exerted on the other side of the lever if it was moved 15 cm ? What would the mechanical advantage?

On the Test, Show Your work...

or else :-(