**AP Physics B Formula Chart Template Page 1**

I. Write the formula for each of the following concepts.

**NEWTONIAN MECHANICS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Force | Force of Gravitation | Period | Period (Spring) | | Period (Pendulum) | Force (Spring) | | Elastic Potential Energy (Spring) |
|  |  |  |  | |  |  | |  |
| Power | Work | Kinetic Energy | Potential Energy | | Momentum | Impulse | | Torque |
|  |  |  |  | |  |  | |  |
| Centripetal acceleration | Friction | Kinematics #1 | | Kinematics #2 | | | Kinematics #3 | |
|  |  |  | |  | | |  | |

**ELECTRICITY AND MAGNETISM**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Coulomb’s Law (Electric Force) | Electric Field | Electric Potential Energy (UE) | Average Electric Field | Electric Potential (Voltage) | Capacitors #1 | Capacitors #2 |
|  |  |  |  |  |  |  |
| Potential Energy in a Capacitor (Uc) | Current | Resistance | Ohm’s Law  (Voltage) | Power | Magnetic Force1 | Magnetic Force1 |
|  |  |  |  |  |  |  |
| Magnetic Flux | emf | Emf for rectangular wire | Resistors in Series | Resistors in Parallel | Capacitors in Parallel | Capacitors in Series |
|  |  |  |  |  |  |  |

**AP Physics B Formula Chart Template Page 2**

**FLUID MECHANICS AND THERMAL PHYSICS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Density | Hydrostatic Pressure | Buoyancy Force | Continuity Eq. | Bernoulli | Thermal Expansion | Rate of Heat Transfer |
|  |  |  |  |  |  |  |
| Pressure | Ideal Gas Law | Molecular Kinetic Energy | Speed of a Gas Molecule | Work done on a System | 1st Law of Thermodynamics | Efficiency of heat engine |
|  |  |  |  |  |  |  |
| Carnot Cycle Efficiency | |
|  | |

**WAVES AND OPTICS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Wave’s velocity | Index of refraction | | Snell’s Law | | Critical Angle | Len/Mirror Equation | | Magnification |
|  |  | |  | |  |  | |  |
| Frequency | | Location of bright spots | | Position of bright spots | | |
|  | |  | |  | | |

**ATOMIC AND NUCLEAR PHYSICS**

|  |  |  |  |
| --- | --- | --- | --- |
| Energy of a photon | Kinetic Energy of a photon | De Broglie Wavelength | Energy-Mass Conversion |
|  |  |  |  |

**GEOMETRY AND TRIGONOMETRY**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Circle’s Area | Cylinder’s Volume | Sphere’s Volume | Pythagorean Theorem | Sine Function | Cosine Function | Tangent Function |
|  |  |  |  |  |  |  |