Final countdown…
-You need a formula sheet for the final. Making this sheet is a major part of studying, but so is using the sheet to answer example problems from old quizzes, assignments, tests, or from physicsclassroom.com, online textbook, etc.
-You may also use your notebook, but solely relying on your notebook will cause you to spend too much time searching for formulae during the exam. Distill your notebook down to a formula sheet.
-Consider making a very clear set of example problems that are very clearly DUFUSed.

We have studied:
Metric system – units, prefixes, metric conversions(train tracks) and other conversions

Vectors – how to add and subtract two or more vectors, and how to draw and interpret vector diagrams

Kinematics in 1D – scenarios with constant acceleration (know how to
identify variables, the 4 major kinematics equations, and how to use them)
Hint: How do you handle two interval problems?
Hints: Be VERY careful with -our algebraic signs…

Kinematics in 2D – Projectile motion (the same 4 equations apply here, but now you must use them with two-column "T" charts – one for the horizontal direction and one for the vertical direction) The initial overall velocity must be broken down into x and y components.
I break Projectile Motion into three classes (class I, II, and III) to make it easier to analyze. Remember - the Range Equation can only be applied to class II projectiles.

Newton and Forces - **1st, 2nd, and 3rd Laws**, Inertia, FBD's and force congruencies, friction, two-object systems, equilibrium vs. non-equilibrium problems, ramps.
Normal, Tension, Gravity, Friction, Push/pull (applied, thrust, etc)

Rotation - centripetal force, escape velocity, gravitational systems (orbits), EC: Kepler's Laws

Energy and Work - gravitational, kinetic, spring, how to use conservation of energy with work and without. Energy before = Energy after +/- work done.
Work = Power =

Momentum - Conservation! Impulse theorem, general rules of collisions. Elastic vs inelastic equations. Only in 1D for us.

Waves, Sound, EM -
Wave characteristics, wave equation, EC: intensity, doppler, snells, coulombs law

Electricity/circuits - Resistance (ohms), Current (amps), Voltage (volts)
Power = voltage * current and it is Watts
Here are a few more misconceptions (i.e. they are wrong!), ordered by topic, for you to ponder. You'll have to figure out the "answers" here but you would do well to read these statements and try to answer for yourself the question, "Why is this statement wrong?"

OVERALL/KINEMATICS
-History has no place in science.
-Two objects side by side must have the same speed.
-Acceleration and velocity are always in the same direction.
-Velocity is a force.
-If velocity is zero, then acceleration must be zero too.
-Acceleration is a force

FALLING BODIES
-Heavier objects fall faster than light ones.
-Acceleration is the same as velocity.
-Objects must have an upward force on them while they move upwards.
-The acceleration of a falling object depends upon its mass.
-Objects in free fall only move downward.
-There is no gravity in a vacuum.
-Gravity only acts on things when they are falling.
-Gravity and air resistance are somehow related.

INERTIA
-Forces required for motion with constant velocity.
-Inertia deals with the state of motion (at rest or in motion).
-All objects can be moved with equal ease in the absence of gravity.
-All objects eventually stop moving when the forces acting on it are removed.
-Inertia is the force that keeps objects in motion.
-If two objects are both at rest, they have the same amount of inertia.
-Velocity is absolute and not dependent on the frame of reference.
-“g” represents “gravity” or its force.

NEWTON'S LAWS
-Action-reaction forces act on the same body.
-There is no connection between Newton's Laws and kinematics.
-$F = m \cdot a$ (this is one of my favorites)
-Friction can't act in the direction of motion.
-The normal force on an object is equal to the weight of the object by the 3rd law.
-The normal force on an object always equals the weight of the object.
-Equilibrium means that all the forces on an object are of equal magnitude.
-Equilibrium is a consequence of the 3rd law.
-Equilibrium means an object isn’t moving.
-Only animate things (people, animals) exert forces; passive ones (tables, floors) do not exert forces.
-Once an object is moving, heavier objects push more than lighter ones.
-Newton's 3rd law can be overcome by motion (such as by a jerking motion).
-A force applied by, say a hand, still acts on an object after the object leaves the hand.
-Velocity or acceleration should be written on an FBD because they are forces.
-Rolling wheels are a result of kinetic friction.
-I know an objects mass but I can’t figure out its weight (or vice versa).
-Weight and mass are the same thing.

GENERAL
-Because I know the equations I know physics.
-Since I can solve most problems means I know how physics works.
-Being able to calculate an answer is more important than understanding the concept behind the problem.
-Units aren’t as important as the numerical answer.
-Brian understands basic physics principles so well he never learns something new about them.