Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Work, Power and Energy Quiz Review**

1. What is the difference between kinetic energy and potential energy?
2. Write the equations to solve each of the following:

WORK EQUATIONS

1. Work =
2. Distance =
3. Force =

POWER EQUATIONS

1. Power =
2. Work =
3. Time =

EFFICIENCY

1. Efficiency =

ENERGY EQUATIONS

1. Energy (Kinetic) =
2. Energy (Potential) =
3. SI Units for:
4. Work- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Distance- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Force- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Power- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Time- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Energy- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Draw a diagram of Work Input and Output. Describe the difference.

**PROBLEMS**

1. Ms. Nathe is redecorating her room. She asks you to move her 10 N student desk 10 m. How much work did you do? (Don’t forget units!!!)

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. You did 200 J of work lifting a 100 N backpack. How high did you lift the backpack?

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A security guard does 20,000 J of work to push a very large student 20 m. How much force is applied to push the student?

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A 900-N student jumps upward a distance of 2 meters to dunk a basketball. How much work did she do before she scored the point?

ANSWER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A cell phone charger uses 5.0 Joules per second when plugged into an outlet, but only 2.5 joules per second actually goes into the cell phone battery. The remaining joules are lost as heat. That's why the battery feels warm after it has been charging a while. How efficient is the charger?
2. Oliver weighs 800 Newtons. He climbs a flight of stairs that is 4.0 meters tall in 3.0 seconds.
   1. How much work did he do?
   2. What was Oliver’s power in watts?
3. Jeremyah does not work really hard. He produces 50 J of work for a power of 10 watts. How much time this take?
4. Rachel likes to work out with Mortecae. She produces 100 watts of power over 600 sec. How much work did she do?
5. What is the kinetic energy of a 10,000.-kg truck moving at 4.0 m/s?
6. Determine the amount of potential energy of a 2.0-N box that is moved to two different desks in a classroom. The height of each desk is 2.0 m and 3.0 m.

Identify the energy in each statement as kinetic OR potential.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Students wrestling at a meet
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Standing on the edge of the pool
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Car at the top of a rollercoaster
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sprinting (Running) to class