

## Final Exam Review: Work, Mechanical Advantage, and Simple Machines

1. How do you find the MA of a ramp?
2. How do you identify a 2<sup>nd</sup> class lever?
3. Give 3 examples of third class levers?
4. How do you find the MA of a pulley or pulley system? What is the difference between a fixed pulley and a moveable pulley?
5. What type of machine is a pair of tweezers?
6. A boy exerts an average force of 50 N when he lifts a box 2 meters. How much work does he do?
7. Calculate the MA of a wrench that allows you to move a bolt 0.01 m by moving the handle 0.50 m.
8. If a ramp is 2.0 m long and 0.50 m tall, how much would it multiply force?
9. A pulley with a MA of 5.00 is used to lift a bucket weighing 200 N. How much force must be used to lift the bucket?
10. Using a jack to lift a car requires less \_\_\_\_\_ than picking it up?
11. A wedge is closely related to which other simple machines?
12. What is a compound machine? Give 3 examples.
13. What type of energy does a thrown ball have at its highest point?
14. When an object falls to the ground, \_\_\_\_\_ energy is converted to \_\_\_\_\_ energy.
15. What is the law of conservation of energy?
16. What is a machine?
17. How does an inclined plane make work easier?
18. An object weighing 50 N is dropped from the top of a building and falls a distance of 10 m to the ground. How much work does gravity do on the object from the time it is dropped to the time it hits the ground?
19. Give 2 examples of something that requires work and 2 examples that do not require work.
20. Give 3 examples of a wheel and axle.