7. How much force is needed to move a rock that weighs 100 pounds using a lever with an effort arm length of four feet and a resistance arm length of one foot?

8. The effort arm is eight meters long and the resistance arm is 1.5 meters long on a lever. How much effort is needed to lift a 200 newton weight?

9. The diameter of a wheel is 25 cm and the radius of the axle is 2.5 cm. What is the M.A. of the wheel and axle?

10. To pry open a soda can lid, you can apply a force of 50 N to a car key. The car key applies a force of 390 N to the lid. What is the mechanical advantage of the car key?

11. The raised end of a board is 2.0 meters above the ground. A 600 Newton crate is pushed up the board for a distance of 10.0 meters by a 160N force. In the picture of this problem, label FE, dE, FR, and dR.

12. Calculate the work input and work output using the example from #11

13. What is the efficiency of the machine in #11?

14. What is the IMA and AMA of the same machine?