Mechanical Advantage and Efficiency Math Help

$$MA = \frac{F_{out}}{F_{in}} = \frac{d_{in}}{d_{out}} \qquad eff = \frac{W_{out}}{W_{in}} x100$$

You are using a machines with a MA of 2.4. What amount of force will the machine produce if you input 200 N?

$$MA = \frac{F_{out}}{F_{in}} = \frac{d_{in}}{d_{out}}$$

What is the MA of a machine that produces 1050 N when 600 N is applied?

If you apply a force 3.5 meters from the fulcrum of a lever and the lever has a MA of 3.6, how long is the output arm?

A lever has a 3 meter long arm and a 2 meter long arm. What is the MA if you apply the force to the 3 meter side?

$$MA = \frac{F_{out}}{F_{in}} = \frac{d_{in}}{d_{out}}$$

A lever has a 3 meter long arm and a 2 meter long arm. What is the MA if you apply the force to the 2 meter side?

A jack requires 808 J of work to be done in raising a load, and ideally would do this amount of useful work. However, internal friction reduces the jack's efficiency to 0.625. How much useful work is done by the jack?

$$eff = \frac{W_{out}}{W_{in}} x100$$

A jack requires 808 J of work to be done in raising a load, and ideally would do this amount of useful work. If the jack produces 750 J of work, what is the efficiency of the jack??