

## Note Taking Guide - Episode 604 - Part 1

### Mechanical Advantage -

equation:  $M.A. = \frac{\text{output force}}{\text{input force}}$

The greater the M.A. of a machine, the \_\_\_\_\_ it is to operate.

In ideal machines, work \_\_\_\_\_ = work \_\_\_\_\_. Real machines are not this efficient.

### Efficiency-

equation:  $\text{Eff} = \frac{\text{work output}}{\text{work input}} \times 100\%$

Machines cannot be 100% efficient:

- Work done to overcome \_\_\_\_\_ is changed into \_\_\_\_\_.
- The heat goes \_\_\_\_\_.
- Friction is a \_\_\_\_\_ force.
- As M.A. increases, the Eff of a machine \_\_\_\_\_.
- Loss of efficiency is due to \_\_\_\_\_.

Problem Set #1 (1a-d): (on back)

Power -

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A box weighing 580 N is lifted 22 m straight up in 15 s by a machine. What is the power of the machine?