

Mechanics 101 Check-up #1

Calculators OK ☺

Name: _____

Formulas & Rules

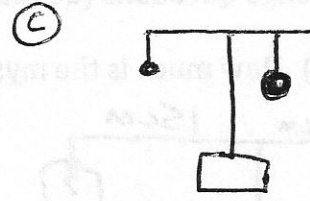
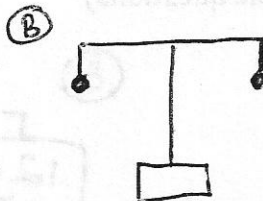
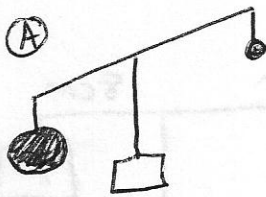
Mechanical Advantage of a lever = effort arm length/load arm length

Mechanical Advantage of a wheel & axle = diameter of the wheel/diameter of the axle

Balances: weight of load x load distance = weight of effort x effort distance

Required Questions (everyone does all of these)

- 1) Name 3 everyday examples or items that make use of levers.
- 2) Name 3 (different!) everyday examples or items that make use of wheels & axles.
- 3) Which balance is (or balances are) in equilibrium & how do you know.



- 4) Think about the mechanical advantage of the wheel & axle on the cars you built. (Did the axle diameter ever change? Did the wheel size change?) Use the words mechanical advantage to describe & explain the differences in distance traveled between your car with small diameter wheels compared to your car with large diameter wheels.