

Power

- Power is an amount of work done in unit time:

$$P = \frac{\Delta W}{\Delta t}$$

Remember that *Work = Force * Displacement*

Unit of power is called watt, $1W = 1J/s$

Homework 20

Problem 1

Find the power of a pump motor that can lift 1 liter (1kg) of water to the height $h=10\text{m}$, in 1 s.

Problem 2

For car engines, a unit of power called horsepower (HP) is traditionally used. 1 horsepower is equal to 750 watts. Honda Accord (that's a name of a car model) has a 200 HP engine. Its' mass is 2000 kg. What is the time required to reach speed 60 mph starting from 0, assuming the engine always operates at the highest power output?

