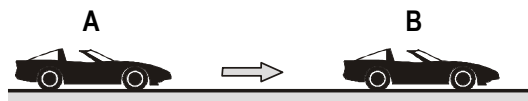


Energy

Homework 2



1 : A car has broken down and has to be pushed 2km to the nearest garage. If the driver has to apply a constant force of 50N to the car how much work is done in getting to the garage.



3 Marks

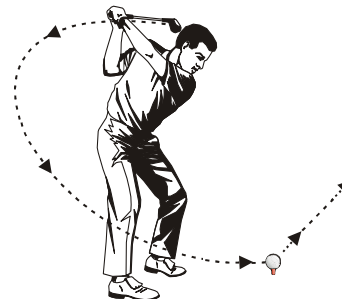
2 : Once the car is repaired it is driven on the motorway at 20m/s. If the car has a mass of 500kg and the driver has a mass of 75kg calculate the kinetic energy.

4 Marks

3 : If the temperature of the coolant in the engine rises from 20C to 35C find the amount of energy that has transferred. Assume there are 4litres of coolant, each litre having a mass of 1kg and a specific heat capacity of 4200J/kg/K.

3 Marks

4 : A golfer swings a club at a ball and hits the ball down the fairway. If it has a mass of 0.1kg and a maximum kinetic energy of 125J find its velocity. (Assume the velocity is constant)



4 Marks

5 : A schoolgirl decides to use a games console for 30 minutes. If the console plugs into the mains and uses 230V and 0.5A calculate

- a) the energy used and
- b) the power used



5 Marks

Total mark /19

Keith Grammar School