Starter worksheet – Work and Potential Energy

Use these first four questions as practise for the next 8. I will take you through these questions step by step. This will show how to get full marks for these types of question on the exam paper.

1. A vehicle on a motorway travels 1800m in 60s. Calculate:
   a) The speed of the vehicle in m/s
   b) How far it would travel at this speed in 300s

2. The velocity of a car increased from 8m/s to 28m/s in 8s without changing direction. Calculate:
   a) It's change of velocity
   b) It's acceleration

3. An object with a mass of 10kg is accelerating at 10m/s². Calculate the force that is acting on it.

4. A parachutist of mass 70kg supported by a parachute of mass 20kg reaches a constant speed. Calculate the total weight of the parachutist and the parachute.

5. Emma travelled 1400m in 4200s. What was her speed?

6. A stationary car starts to move, and reaches a speed of 20m/s in 20s. Calculate it's acceleration.

7. Complete the table:

	a)	b)	c)	d)	e)
Force (N)	?	200	840	?	5000
Mass (Kg)	20	?	70	0.40	?
Acceleration (m/s²)	0.80	5.0	?	6.0	0.20

8. Calculate the weight of a person in England of mass 80kg.

9. A cat skulks 20m in 35s. Find:
    a) It's speed
    b) How long it takes to skulk 75m

10. An object accelerates steadily from 2m/s to 6m/s in 5.6s. Find it's acceleration.

11. A bag of sugar has a mass of 2 kg. Find it's weight:
    a) On Earth
    b) On the Moon (gravitational field strength = 1.6N/Kg)

12. A car of mass 1750Kg has an engine which provides a driving force of 5200N. At 70mph, the drag force acting on the car is 5150N. Find it's acceleration:
    a) When first setting off from rest
    b) At 70mph