

(iv) What is the speed of the bus at 45 seconds?

Show clearly on the figure above how you obtained your answer.

Speed = _____ m / s

(3)

(b) Later in the journey, the bus is moving and has 500 000 J of kinetic energy.

The brakes are applied and the bus stops.

(i) How much work is needed to stop the bus?

Work = _____ J

(1)

(ii) The bus stopped in a distance of 25 m.

Calculate the force that was needed to stop the bus.

Force = _____ N

(2)

(iii) What happens to the kinetic energy of the bus as it is braking?

(2)

(Total 11 marks)