Answer ALL questions.

1 (a) Which of these quantities is a vector?

(1)

☒ **A** acceleration

☒ **B** energy

☒ **C** power

☒ **D** speed

(b) Which of these is a correct unit for momentum?

(1)

☒ **A** kg m/s

☒ **B** kg m^2/s

☒ **C** kg m/s^2

☒ **D** kg m^2/s^2

(c) The photograph shows a toy train at rest on a horizontal surface.

(i) Why is the toy train at rest?

(1)

- ☒ **A** a resultant downward force acts on the train
- ☒ **B** a resultant upward force acts on the train
- ☒ **C** no resultant force acts on the train
- ☒ **D** no forces act on the train

(ii) The mass of the toy train is 150 g.

State the equation linking weight, mass and gravitational field strength, *g*.

(1)

(iii) Calculate the weight of the toy train.

(3)

weight = ... N

(Total for Question 1 = 7 marks)