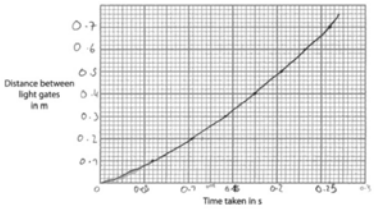
Question number	Answer	Notes	Marks
10 (a) (i)	substitution into $a = \Delta v / t$; evaluation to 3 or more s.f.; e.g. acceleration = (4.20 – 1.45) / 0.286 (acceleration =) 9.62 (m/s^2)		2
(ii)	idea that air resistance / friction also acts on ball; which opposes the ball's weight;	allow drag allow idea that frictional force is upwards whilst weight is downwards allow idea that resultant force is less that weight ignore idea of reaction time / other human errors	2
(iii)	substitution into $v^2 = u^2 + 2 \times a \times s$; rearrangement; evaluation; e.g. $4.20^2 = 1.45^2 + (2 \times 9.6 \times s)$ $s = (v^2 - u^2) / 2a$ (s =) 0.809 (m)	allow use of a=9.6, 9.8, 9.81 or 10 reject 'change in speed × time' giving 0.78(65) as incorrect physics allow answers using correct average velocity. allow range 0.78-0.81 (m)	3
(b) (i)	suitable scale on both axes; all points plotted correctly to nearest half square;  		2
(ii)	smooth curve drawn with an even distribution of data points either side;	ECF candidate plotting	1
(iii)	gradient of graph is equal to the speed / velocity of the ball; gradient is increasing (as time increases); speed / velocity is increasing (as time increases);	 allow "curve gets steeper" allow idea of greater distance in a unit of time DOP award 1 mark for idea that graph is a curve if no other marks awarded	3

Total for Question 10 = 13 marks